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AGENDA
KEIZER CITY COUNCIL
REGULAR SESSION

Monday, May 16, 2022

7:00 p.m.

Robert L. Simon Council Chambers
Keizer, Oregon

1. **CALL TO ORDER**

2. **ROLL CALL**

3. **FLAG SALUTE**

4. **SPECIAL ORDERS OF BUSINESS**

5. **COMMITTEE REPORTS**

6. **PUBLIC COMMENTS**

This time is provided for citizens to address the Council on any matters other than those on the agenda scheduled for public hearing.

7. **PUBLIC HEARINGS**

8. **ADMINISTRATIVE ACTION**

a. **RESOLUTION** – Recognition of Northeast Keizer Neighborhood Association

b. South East Keizer Neighborhood Association Annual Report

c. Keizer Community Center Fee Waiver Request - CASA of Marion County
Resource Parent Appreciation Dinner

d. **RESOLUTION** – Adopting Eligible Project to be Used by City for Funds Received from County Under Intergovernmental Agreement for Community Prosperity Initiative

e. Keizer Library Work Group Recommendation

9. **CONSENT CALENDAR**

- a. **RESOLUTION** – Approving Report of Consultant Relating to Wheatland Road Corridor Plan; Repeal of Resolution R2022-3277
- b. **RESOLUTION** – Declaring the City’s Intent to Initiate A Street Lighting Local Improvement District (Orchard Street Partition) and Directing the City Engineer to Make a Survey and File a Written Report with the City Recorder
- c. Approval of May 2, 2022 Regular Session Minutes

10. **OTHER BUSINESS**

This time is provided to allow the Mayor, City Council members, or staff an opportunity to bring new or old matters before the Council that are not on tonight’s agenda.

11. **STAFF UPDATES**

12. **COUNCIL MEMBER REPORTS**

13. **AGENDA INPUT**

June 6, 2022 - 7:00 p.m.

- City Council Regular Session

June 13, 2022 – 6:00 p.m.

- City Council/Community Diversity Engagement Committee Joint Work Session

June 21, 2022 (Tuesday) – 7:00 p.m.

- City Council Regular Session

July 5, 2022 (Tuesday) – 7:00 p.m.

- City Council Regular Session

July 11, 2022 - 6:00 p.m.

- City Council Work Session

14. **ADJOURNMENT**

City of Keizer Mission Statement

Keep City Government Costs And Services To A Minimum By Providing City Services To The Community In A Coordinated, Efficient, And Least Cost Fashion

CITY COUNCIL MEETING: May 16, 2022

AGENDA ITEM NUMBER: _____

TO: MAYOR CLARK AND COUNCIL MEMBERS

THROUGH: ADAM J. BROWN, CITY MANAGER

FROM: TRACY DAVIS, CITY RECORDER

SUBJECT: RECOGNITION OF NORTHEAST KEIZER NEIGHBORHOOD ASSOCIATION

The Northeast Keizer Neighborhood Association (NEKNA) has requested the City Council for official recognition as a neighborhood association under the provisions of the Neighborhood Association Ordinance No. 93-257 adopted June 21, 1993 (copy enclosed). The petition, bylaws, map of the boundary, and a copy of the NEKNA minutes are attached for your consideration.

Staff has reviewed the bylaws of the Northeast Keizer Neighborhood Association to determine if they meet the criteria of Section 5 of Ordinance No. 93-257. There are three major criteria which are outlined below:

The first criteria is that the Association adopt bylaws that include provisions for broad membership, regular meetings, and an open process. The attached bylaws meet these standards.

The second criteria is that the boundary of the Association meets several guidelines. The proposed NEKNA boundary is a logical area encompassing the neighborhood as set forth in the attached map. It also encompasses over 300 homes and includes all land within the city limits in that area as required by the Ordinance.

The third criteria is that the Association must strive to accurately represent the best interests of its members, solicit participation and hold regular meetings. The Northeast Keizer Neighborhood Association bylaws address this requirement.

Staff believes that NEKNA has adopted bylaws conforming to the requirements of Ordinance No. 93-257 and has demonstrated by its actions its commitment to meeting the

intent of the Ordinance to foster citizen involvement and to make Keizer's neighborhoods better places. Staff recommends that official recognition be granted.

RECOMMENDATION:

It is recommended the Council adopt the attached Resolution granting official recognition to the Northeast Keizer Neighborhood Association.

Please contact me if you have any questions in this regard. Thank you.

ESJ/tmh

1 BILL NO. 239

A BILL

ORDINANCE NO.

93-257

FOR

4 AN ORDINANCE

5 RELATING TO THE RECOGNITION OF
6 NEIGHBORHOOD ASSOCIATIONS

7
8 The City of Keizer ordains as follows:

9 Section 1. PURPOSE. This ordinance is intended to
10 recognize that neighborhood associations are an important part
11 of the involvement and volunteerism of the citizens of the
12 community in Keizer city government. Active neighborhood
13 associations enhance the City's citizen involvement program and
14 provide an important two way channel for information relative
15 to the activities of the City. This ordinance is intended to
16 provide a framework for establishment and recognition of
17 neighborhood associations and to acknowledge such associations
18 as legitimate representatives of the citizens and issues within
19 their boundaries.

20 Section 2. NEIGHBORHOOD ASSOCIATIONS. A neighborhood
21 association is any group of people organized within a
22 geographical area for the purpose of studying and acting on
23 issues affecting neighborhood and city-wide livability and
24 government operations, and that also actively solicits broad
25 involvement by all citizens within the association's boundary.
26 A recognized neighborhood association is one that has been
27 found by the City Council to satisfy the standards of this
28 ordinance.

29 ///

- ORDINANCE NO. 93- 257

FMAGIC

LIEN, HOBSON & JOHNSON

Attorneys at Law
4855 River Rd. N.
Keizer, Oregon 97303
(503) 390-1635

1 Section 3. RECOGNITION. The City Council may officially
2 recognize a neighborhood association as described in Sections 4
3 and 5 below. For a recognized neighborhood association the
4 City will do the following, at a minimum:

5 (a) Mail the association requests for comments and public
6 hearing notices for all planning, zoning, and subdivision
7 activities within its boundaries.

8 (b) Mail the association notices of other City issues
9 that may result in action being taken impacting property or the
10 citizens within the association boundary.

11 (c) Mail the association agendas for all City
12 commissions, boards, and City Council meetings.

13 (d) Solicit the input of the association at early stages
14 of major decision making, such as annual budget preparation and
15 amendments to the Comprehensive Plan.

16 (e) Recognize the association as having standing in land
17 use cases within its boundaries or within adjacent areas where
18 there is a direct impact.

19 (f) Provide assistance in publicizing the activities of
20 the association through press releases, city publications, and
21 other media as resources allow.

22 Section 4. PROCESS FOR RECOGNITION. A neighborhood
23 association may petition the City Council for official
24 recognition. If the Council finds that the standards outlined
25 below are met, the association may be recognized by resolution.

26 ///

1 Section 5. STANDARDS FOR RECOGNITION. The following
standards must be met by a neighborhood association seeking and
3 maintaining recognition:

4 (a) By-Laws - The Association shall adopt by-laws that
5 contain the following provisions at a minimum:

6 (1) Any person who resides, operates a business, or owns
7 property within the boundary shall be a member with the right
8 to participate and vote.

9 (2) The membership shall not be limited by race, creed,
10 color, sex, age, or any other factor.

11 (3) There shall be no dues, but voluntary contributions
12 may be solicited.

13 (4) The association shall hold an annual general meeting,
14 with the time, date, and place of the meeting widely publicized
15 throughout the neighborhood prior to the meeting. Other
16 general meetings may be held as desired.

17 (5) Regular meetings of the Board shall be held at a
18 publicized date, time, and place. All Board meetings shall be
19 open to the public. All members present may vote on issues
20 with the results recorded separately from votes of the Board.

21 (6) Minutes shall be taken of all Board and General
22 meetings, with the minutes made available to any person so
23 requesting. A copy of the minutes shall be filed with the City
24 Recorder.

25 ///
26 ///

1 (7) The association shall have a Board of Directors with
2 a president, vice-president, and secretary who shall be elected
3 annually by those present at the annual meeting. The
4 association may establish additional elected positions on the
5 Board. The board roster including names and addresses shall be
6 filed with the City Recorder. The association shall provide
7 one address to the City for mailing purposes.

8 (8) A copy of the by-laws shall be filed with the City
9 Recorder and maintained and updated to reflect amendments by
10 the neighborhood association.

11 (b) Boundary - The Association shall adopt by motion a
12 fixed geographic boundary meeting the following general
13 guidelines:

14 (1) The neighborhood should generally encompass at least
15 300 dwelling units or smaller clearly defined areas.

16 (2) The neighborhood should encompass a logical
17 geographic and social area with generally rectangular
18 boundaries and without any gerrymandering.

19 (3) The neighborhood should generally focus on a single
20 elementary school attendance area.

21 (4) Neighborhood boundaries should generally follow
22 natural or manmade barriers such as creeks and arterial
23 streets. When a boundary must follow a local street, it should
24 follow rear property lines rather than divide the neighborhood
25 between houses facing each other.

26 ///

1 (5) The boundary should encompass adjacent vacant or
underdeveloped land.

3 (6) The boundary should extend to the City Limits.

4 (7) The boundary should leave no isolated areas or
5 pockets not included in another neighborhood association's
6 boundary.

7 (8) The Council shall have the final determination of a
8 neighborhood's boundary and is not necessarily bound to the
9 above guidelines. This determination shall be reflected in the
10 resolution of recognition.

11 (c) Responsibilities - The following responsibilities
12 must be assumed and carried out by a neighborhood association:

13 (1) The association must strive to accurately represent
14 the best interest of its members when expressing neighborhood
15 opinion, recommendations, and concerns before any public body.

16 (2) The association must try to solicit the participation
17 or input of all members through newsletters, media coverage,
18 personal contact, flyer distribution, and other means.

19 (3) The association must actively participate in City
20 government through participation, input, and recommendations on
21 issues brought to it by the City, or initiated by the
22 neighborhood itself.

23 (4) The association must hold regular board and general
24 meetings, with timely, appropriate notification to members.

25 ///

26 ///

1 (5) The association must strive to improve the livability
2 of the neighborhood and of the community as a whole through
3 education, activities, projects, and participation.

4 Section 6. MAINTAINING RECOGNITION - ANNUAL REPORT. A
5 recognized neighborhood association shall make an annual report
6 to the City Council at a Council meeting no more than one month
7 before or one month after the anniversary of the Council's
8 recognition. This report may be in writing or presented
9 orally. The report shall include at least the following
10 elements:

11 (a) A record of all meetings.

12 (b) A summary of all issues dealt with by the
13 association.

14 (c) A summary of special association activities outside
15 regular meetings

16 (d) A report of all efforts to solicit the participation
17 and input of all members of the association

18 (e) An analysis of the Association's success in meeting
19 its responsibilities as outlined above.

20 Section 7. MAINTAINING RECOGNITION - COUNCIL ACTION. If
21 the Council finds the association has continued to meet the
22 expectations and responsibilities of a neighborhood
23 association, it shall, by motion, extend recognition for an
24 additional year.

25 Section 8. TERMINATING RECOGNITION. At any time the
26 Council may consider an association's alleged failure to meet

1 the expectations and responsibilities of a neighborhood
2 association. If it finds the association is not meeting the
3 standards, it may, by resolution, revoke recognition.

4 Section 9. EFFECTIVE DATE. This Ordinance shall take
5 effect thirty (30) days after its passage.

6 PASSED this 21st day of June, 1993.

7 SIGNED this 23rd day of June, 1993.

8 Dennis Kelso
9 Mayor

10 Gracy K. Davis
11 City Recorder

12 824.111

Tammy Kunz

3/25/22

2001 Kennedy Circle NE Keizer OR 97303

971-701-3008 t_kunz@yahoo.com

To the City Council of Keizer Oregon,

Letter of intent to become recognized by the City Council of Keizer Oregon; as a North-East Keizer Neighborhood Association, to serve the Northeast Keizer Neighborhood and those who may attend Kennedy Elementary School; this is about 4000 + families and still growing

Statement of Purpose is to be seen as a Northeast Keizer Neighborhood Association with the City of Keizer, and the State of Oregon. To be the voice of the communities in which we serve, understanding not everyone is on the same page but the voices of those folks should have the right to be heard as well. We will be representing around 4,000 + family households in our Section of Northeast Keizer. The first meeting is set for 3rd **Wednesday of Month**.

In this case we have met 2 times this month to ensure we have all the information in order. To be ready for this appointment within the Madam Mayor Cathy Clark and the City Council for recognition, Next Meeting is for June 15th at city Hall

Neighborhood Associations are to support and to facilitate communication between residents and local government to support change, help organize volunteers for community projects, and organize improvement efforts to better communities. Neighborhood associations play an integral part in the many aspects of the civic process for the life of the City of Keizer which in turn is shared with the State Capitol of Salem. The officially recognized associations represent nearly every square foot of Keizer. We are an independent group, but would like to be supported by the City of Keizer Government and other partners.

Thank you for your time,

Tammy Kunz (President of Northeast Keizer Neighborhood Association)

North-East Keizer Neighborhood Association

Demographics;

Keizer Household Types		
Type	Owner	Renter
Married	79.30%	20.70%
All	59.80%	40.20%
Non Family	45.40%	54.60%
Male	42.30%	57.70%
Female	31.70%	68.30%
59.80%		
Rate of Home Ownership		

Image from; <https://worldpopulationreview.com/us-cities/keizer-or-population>

Kennedy Elementary School serves 432 students in grades Kindergarten-5.

Kennedy Elementary School placed in the bottom 50% of all schools in Oregon for overall test scores (math proficiency is bottom 50%, and reading proficiency is bottom 50%) for the 2018-19 school year.

The percentage of students achieving proficiency in math is 29% (which is lower than the Oregon state average of 40%) for the 2018-19 school year. The percentage of students achieving proficiency in reading/language arts is 42% (which is lower than the Oregon state average of 54%) for the 2018-19 school year.

The student: teacher ratio of 17:1 is lower than the Oregon state level of 19:1.

Minority enrollment is 70% of the student body (majority Hispanic), which is higher than the Oregon state average of 38% (majority Hispanic).

Kennedy Elementary School ranks among the top 20% of public schools in Oregon for:

Category	Attribute
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Percent Eligible for Free Lunch
(Top 5%)

Largest percent of student's eligible for free lunch

Student Attention

Lowest student: teacher ratio (Top 20%)

Walking routes; to Kennedy Elementary;

Kennedy Elementary School
4912 Noren Ave NE Keizer, OR 97303
503-509-3163

Routes from the North

Kennedy Route 1 North Start at Pleasant Ct NE (yes sidewalk)

<https://goo.gl/maps/fVxCUyNxwn52> 8 min (0.4 mile)

Kennedy Route 2 North Start at Allendale Way NE (yes sidewalk)

<https://goo.gl/maps/cQDPQEHa6y22> 5 min (0.3 mile)

Kennedy Route 3 North Start at Petty Grove Ct NE (yes sidewalk)

<https://goo.gl/maps/uiC5CZX5niA2> 6 min (0.3 mile)

Kennedy Route 4 North Start at Cranberry Ct NE (yes sidewalk)

<https://goo.gl/maps/bnMKkwPaLjo> 5 min (0.2 mile)

Kennedy Route 5 North Start at Gable Ct NE (yes sidewalk)

<https://goo.gl/maps/VVzNhJL57pJ2> 4 min (0.2 mile)

Kennedy Route 6 North Start at Hasbrook Ave NE (yes sidewalk)

<https://goo.gl/maps/xpbp49qmMKx> 5 min (0.2 mile)

Kennedy Route 7 North Start at Keizer Ct NE (yes sidewalk)

<https://goo.gl/maps/bEopMAwnXsH2> 8 min (0.4 mile)

Kennedy Route 8 North Start at Drexler Ln NE (yes sidewalk)

<https://goo.gl/maps/9cxf1zofsq72> 5 min (0.2 mile)

Routes from the South

Kennedy Route 1 South Start at Kephart CT NE (yes sidewalk)

<https://goo.gl/maps/Sxyt8aH4top> 12 min (0.6 mile)

Kennedy Route 1 South Start at Northview Dr. NE (yes sidewalk)

<https://goo.gl/maps/dRxxR4q83er> 11 min (0.6 mile)

Kennedy Route 2 South Start at Chelan St NE (yes sidewalk)

<https://goo.gl/maps/UodLKmxNqpp> min (0.4 mile)

Kennedy Route 3 South Start at Weissner Dr. NE (yes sidewalk)

<https://goo.gl/maps/RSuf4q7YdrD2> 8 min (0.4 mile)

Kennedy Route 4 South Start at Brandon Ave NE (yes sidewalk)

<https://goo.gl/maps/6bwxd3tUrvj> 16 min (0.8 mile)

Routes from East

Kennedy Route 1 East Start at Kennedy Cir NE (no Sidewalk)

<https://goo.gl/maps/qtNBD1TUaMn> 5 min (0.3 mile)

Kennedy Route 2 East Start at Joyce St NE (note some restricted roads)

<https://goo.gl/maps/efLBcGhpddm> 8 min (0.4 mile)

Routes from West

Kennedy Route 1 West Start at Dearborn Ave NE (no sidewalk)

<https://goo.gl/maps/mXtfsVoivzC2> 20 min (1.0 mile)

Kennedy Route 2 West Start at Dixon St NE (no sidewalk)

<https://goo.gl/maps/qczuM5vxKUN2> 4 min (0.2 mile)

Kennedy Route 3 West Start at May Street NE (no sidewalk)

<https://goo.gl/maps/ve2WxkVqEUA2> 2 min (0.1 mile)

Keizer Demographics; According to the most recent ACS, the racial composition of Keizer was: (as a whole)

White: 85.17%

Two or more races: 7.96%

Other race: 3.46%

Asian: 1.77%

Native American: 0.72%

Native Hawaiian or Pacific Islander: 0.63%

Black or African American: 0.29%

Population in 2019: 39,713 (100% urban, 0% rural). Population change since 2000: +23.3% Males: 19,256 (48.5%) Females: 20,457 (51.5%) Median resident age: 37.8 years Oregon median age: 39.7 years Zip codes: 97303. Estimated median household income in 2019: \$69,713 (it was \$45,052 in 2000) Keizer: \$69,713 OR: \$67,058 Estimated per capita income in 2019: \$31,474 (it was \$20,119 in 2000) Keizer city income, earnings, and wages data Estimated median house or condo value in 2019: \$304,005 (it was \$133,600 in 2000) Keizer: \$304,005 OR: \$354,600 Mean prices in 2019: all housing units: \$268,515; detached houses: \$285,955; townhouses or other attached units: \$275,668; in 3-to-4-unit structures: \$170,901; mobile homes: \$65,251 Median gross rent in 2019: \$1,148. March 2019 cost of living index in Keizer: 95.7 (near average, U.S. average is 100) Keizer, OR residents, houses, and apartments details Percentage of residents living in poverty in 2019: 10.9% (9.9% for White Non-Hispanic residents, 17.5% for Hispanic or Latino residents, 2.9% for American Indian residents, 25.8% for other race residents, 7.7% for two or more races residents)

Read more: <http://www.city-data.com/city/Keizer-Oregon.html>

NORTHEAST KEIZER NEIGHBORHOOD ASSOCIATION NEWSLETTER



MEETINGS ARE 3RD WEDNESDAY OF THE MONTH FROM 6:30 PM TO 7:30 PM @ CITY HALL

A neighborhood association is formed based on the needs and desires of its residents. The purpose of neighborhood associations is to advocate for your neighborhood with local government, improve neighborhood amenities, and organize activities. It is also a place to meet friends, exchange information, create projects and priorities, propose solutions, and have fun. We have a number of reasons I have listed above and below, we all live in this area and it part of our responsibility to keep it safe and work with one another.

We are in the search for 5 people who are willing to join the board; a person to be the secretary and finance manager this is the person in charge of controlling the budget, as well as a person represents the youth age bracket. I would also like a parent who has a child in Kennedy Elementary School and I have a person for a translator I would like a backup to have available.

Kennedy Elementary School events update;

Thursday, May 19

6:00-7:00 Pm Parent Club Meeting

Thursday, May 26

Friday, May 27

Monday, May 30

No school; district offices closed

Friday, June 10

Wednesday, June 15

Friday, May 20 (No School)

Choir Concert @ 6 PM

Sports Day -dress up

Memorial Day- No School

Beach-dress up day

Elementary Last day of school

Last day k-5

Community Update;

Keizer's City Manager position was filled Adam Brown, City Manager of Ontario, Ore.; Adam joined our team in May of 2022. If you want to have a chance to get to know please come to meeting held at City Hall.

Items we have on the list is as follows; Side walk repairs up and done Keizer road, Speeding cars, adding sidewalk from the black berry bush to the end of the left hand road and work on the walk path on the parkway. If you know or are concerned please let me know and I can get these added to the right departments. We are also looking for someone to build 3 take a book and leave a book box. This is something we will need to check on every so often. I will like to see bilingual books. I have a box of books already set to start filling them once they are built and placed around our area.

PARKS AND REC UPDATE

We have had some work done at Claggett Creek Park the playground has been remodeled and looks great check it out. Parks and Rec have done a great job, with planting of the new trees and maintaining the park. This brings a point to mind if your see anything that needs to be attended to please don't hesitate to call myself or Jacqueline Green. We will be sure to get this information together or have someone connect you with the answer.

Distracted Driving campaign

Other items going on around town are Distracted Driving campaign is the focus for the next 2 months. This we are working on With Keizer PD, so if you have ideas and ways to build more community please let us know. This is the 20th year and it time to celebrate more information as I get it. Keizer is hiring in a few positions as well as other opening in county positions. As I get information I will pass it along, and if you could all do the same with activities, or events around Keizer. If you have a business and need support we can help with that. I will be putting a monthly newsletter together each month. If you have information to add to the newsletter please turn it in to Tammy or Jim at 2001 Kennedy Cir. N.E. Keizer

Oregon 97303 by the 20th of each month for the following months newsletter. My other contact information is 971-600-3108 home number and my cell is 971-701-3008, Email is t_kunz@yahoo.com.

COMMUNITY MEETINGS WE ATTEND UPDATES;

I would like to share some of what I have been doing, with you all I have been attending the city council meeting and the traffic –Bikeways – Pedestrian, committee meetings. I also have been neighborhood Association meetings throughout our surrounding neighborhoods. In this doing this we have decided to make an association for the Kennedy Elementary School Zone. I would love for you to attend meetings, board meetings and work sessions to be able to share some of the exciting things Keizer city council members are working on. For example; we have a parks advisory Board, Planning Commission, and Public Arts, this is just some of what Keizer has to offer.

January, February and March meetings to discussion of traffic-related issues in Keizer streets in particular, to add some extra measures of safety. Potential measures to address the problems included an informational campaign about safe walking and biking, need for more signage, addition of more stop signs on some streets to slow traffic, installation of speed bumps or tables, etc. If you have other areas we need to take a look at please come to a meeting and share this with the group. Keizer Police Chief John Teague attended West Keizer Neighborhood Association to respond to the concerns and offer his assessment of the problems and potential solutions.

GOVERNMENT CALENDAR EVENTS

Meeting	Date/Time	Documents
<u>Lesbian, Gay, Bisexual, Transgender and Queer Pride Month</u>	06/01/2022 @ 12:00AM	

Meeting	Date/Time	Documents
Traffic Safety/ Bikeways/Pedestrian	05/19/2022 @ 06:00PM	
Traffic Safety/ Bikeways/Pedestrian	05/19/2022 @ 06:00PM	
Public Arts Commission	05/17/2022 @ 06:00PM	
City Council	05/16/2022 @ 07:00PM	
KRP Turf Fields Work Group	05/12/2022 @ 12:00PM	Attachments: <ul style="list-style-type: none"> • 05-12-22.pdf
West Keizer Neighborhood Association	05/12/2022 @ 07:00PM	
Volunteer Coordinating Committee-CANCELLED	05/12/2022 @ 06:00PM	
Planning Commission - CANCELLED Location: Civic Center	05/11/2022 @ 06:00PM	
Greater Gubser Neighborhood Association Meeting Location: Civic Center	05/10/2022 @ 07:00PM	
Budget Committee	05/10/2022 @ 06:00PM	
Parks Advisory Board - CANCELLED	05/10/2022 @ 06:00PM	

Meeting	Date/Time	Documents
Budget Committee	05/09/2022 @ 06:00PM	
Southeast Keizer Neighborhood Association (SEKNA) Location: Civic Center	05/05/2022 @ 06:30PM	
Community Diversity Engagement Committee	05/03/2022 @ 06:00PM	Attachments: <ul style="list-style-type: none"> • 05-03-22.pdf Audio: <ul style="list-style-type: none"> • 05-03-22.mp3
Library Work Group	05/03/2022 @ 05:00PM	Attachments: <ul style="list-style-type: none"> • 05-04-22.pdf Audio: <ul style="list-style-type: none"> • 05-04-22.mp3
Storm water Advisory Committee (SWAC)	05/03/2022 @ 04:00PM	
Law Day	05/02/2022 @ 12:00AM	
Asian Pacific & Jewish American Heritage Month	05/02/2022 @ 12:00AM	
Bike Skills Fair	05/02/2022 @ 12:00AM	
City Council	05/02/2022 @ 07:00PM	

Thank you,

Tammy Kunz

Northeast Keizer Neighborhood Association By-Law

Tammy Kunz

2022



Northeast Keizer Neighborhood Association
t_kunz@yahoo.com
971-701-3008

The purpose of the Association shall be to promote, coordinate, implement, and advise on all aspects of planning for the City of Keizer or any other planning or advisory bodies.

Building a better Community

North-East Keizer Neighborhood Association;

(1) Name;

The name of this organization shall be the **North-East Keizer Neighborhood Association** referred to as the Association in this document.

(2) Area **Please refer to map**

Serving about 2,500+ family's

(3) Purpose

(a) The purpose of the Association shall be to promote, coordinate, implement, and advise on all aspects of planning for the City of Keizer or any other planning or advisory bodies.

(b) The Association shall strive for maximum citizen participation in promotion of the improvement of the livability and the environment of the neighborhood and of the community as a whole.

(c) The Association shall provide a local forum in which residents may deliberate on issues which are important to them, and will provide a vehicle for communicating residents' views on these issues to the City of Keizer.

(d) The Association shall provide information to its members on all proposed changes in land use planning that will affect its area through public meetings, newsletter or other means available, i.e. social media, radio, newspaper, etc.

(e) The Association shall encourage citizen involvement in local governmental issues and the civic responsibilities of individuals in its neighborhood.

(4) Membership

(a) The Association shall be non-partisan, non-commercial and non-sectarian.

(b) The Association shall not discriminate against or limit membership based on, but not limited to, race, religion, ethnicity, age or gender.

(c) Any person who resides, works, operates a business or non-profit, or owns property or worships within the boundaries shall be a member with the right to participate and

vote. Any business or private institution within the boundaries may elect to appoint a representative to participate and vote on their behalf.

(c) There shall be no dues, but voluntary contributions may be solicited.

(e) Voting

(i) Voting age of members shall be 18 years of age. Members under the age of 18 are encouraged to participate in and contribute to Association meetings and activities.

(ii) Each member shall be entitled to one vote per voting opportunity.

(iii) There shall be no voting by proxy. Member must be present to vote.

(5) The Association Board of Directors

(a) The Association Board of Directors, referred to as the Board in this document, shall consist of five- nine directors elected at large. All positions will be for a term of one year. The Board will name three of these as Officers of the Board in the positions of President, Vice President and Secretary.

(b) The Board will name directors who may serve in the following capacities: Land Use Coordinator, Business Community Liaison, Neighborhood Watch Coordinator and Police Liaison.

(c) The Board members shall be members of the Association.

(d) The roster of the names and addresses of all Board members shall be filed with the City of Keizer Recorder.

(e) Board members will be elected by the majority of all members present at the annual general meeting.

(f) Nominations for Board positions may be submitted by the general membership from the floor at the general meeting.

(g) It shall be prohibited for two members from an immediate family or of the same household to simultaneously serve as directors on the Board.

(h) Any individual or business who may receive direct financial profit from work of the Association is prohibited from holding office in the Association.

(i) If the President resigns, the Vice President shall become President.

(j) A vacancy in any other office will be filled for the unexpired term by a majority vote at the next Board meeting. The Board may, by majority vote, declare a Board position vacant if the member is absent from four consecutive meetings, regular or specially called.

(k) In the event of a temporary absence of a Board member due to health or other reasons, the President shall assign the duties to other Board members or any general member designated until the Board member returns.

(l) The Board will hold at least one general meeting per year.

(m) The Board will always strive to accurately represent the best interests of its members when expressing neighborhood opinion, recommendations, and concerns before any public body.

(n) The Board shall participate in the City of Keizer government through input and recommendations on issues brought to it by the City of Keizer or initiated by the neighborhood itself.

(o) The Board must solicit the participation of all members through newsletter, media coverage, personal contact, flyer distribution or any other means available to it i.e. social media, radio or newspaper, etc.

(6) Duties of Association Board Officers

(a) The President shall be responsible for the general supervision and direction of the Board and the Association; shall provide contact information to the City of Keizer for all Association business; shall review all mailings received and take appropriate action; shall preside at all meetings of the Board and at all general membership meetings; shall be responsible for the annual report to the Keizer City Council; and shall be an ex-officio member of all committees.

(b) The Vice-President shall perform all duties of the President in his or her absence and shall perform other duties as assigned by the President.

(c) The Secretary shall record the minutes of all general membership meetings and the Board meetings and provide the Board members with copies of said minutes, retain a copy for the Association files and file one with the City of Keizer Recorder; shall keep all

records for the Association; and shall be responsible for notification of the date, time and place of all meetings to the media, general membership, and in the event of a special Board meeting, to the Board members.

(7) Meetings

(a) The Board will hold an Annual general meeting on the **4th Wednesday of April @ 6:30 pm to 7:30 pm each year. Monthly Meeting will be the 3rd Wednesday of each Month, at 6:30 pm to 7 :30 pm City Hall.** General meetings may be called for special issues any other time of the year as the need arises. Notification of general meetings shall be at least seven days and no more than fourteen days prior to the meeting and will be posted in the local newspaper, on social media and on the City of Keizer website.

(b) The Board will hold Board meetings to conduct Association business. Notification will be given to the general Association at least seven days prior (whenever possible). An order of business at all Board meetings will be to determine the date, time and place of the next meeting and record it in the minutes.

(c) Special meetings of the Board, for any purpose, may be called by the President, or if absent, by the Vice President. Three days prior notice of the time and place of any special Board meeting shall be given to each Board member.

(d) All regular Board meetings shall be open to the public.

(e) Minutes shall be taken of all Board and general meetings and a copy of the minutes shall be filed with the City of Keizer Recorder.

(f) 51% (fifty-one percent) of members of the Board currently holding office will constitute a quorum for the transaction of business. Once formed, a quorum shall remain for the duration of the meeting.

(g) No member of the Board shall take part in any vote where there may be a conflict of interest.

(h) Any decision made by the Board may be nullified by a majority vote of the members present at the next general membership meeting.

(8) Committees

(a) Committees may be formed in order to carry out Association work on specific issues or projects.

(b) The President will appoint a chairperson for the committee and each committee will elect its own secretary.

(c) A charge will be given to the committee defining the committee goals and area of responsibility. This will be included in the Board minutes.

(d) The committee will examine issues; make recommendations to the Board, and carryout actions as directed by the Board.

(e) The committee shall consist of Association members only.

(f) The secretary of each committee shall submit a written copy of the minutes of the committee meetings to be included with the minutes of the Board meeting.

(g) The committee chairperson may recruit additional members at any time to serve on the committee as needed.

(9) Amendments

(a) These bylaws may be repealed or amended or new bylaws may be adopted by majority vote at any general membership meeting. Public notice of the date, time and place of the meeting and the proposed bylaw change shall be made at least seven days and no more that fourteen days prior to the meeting.

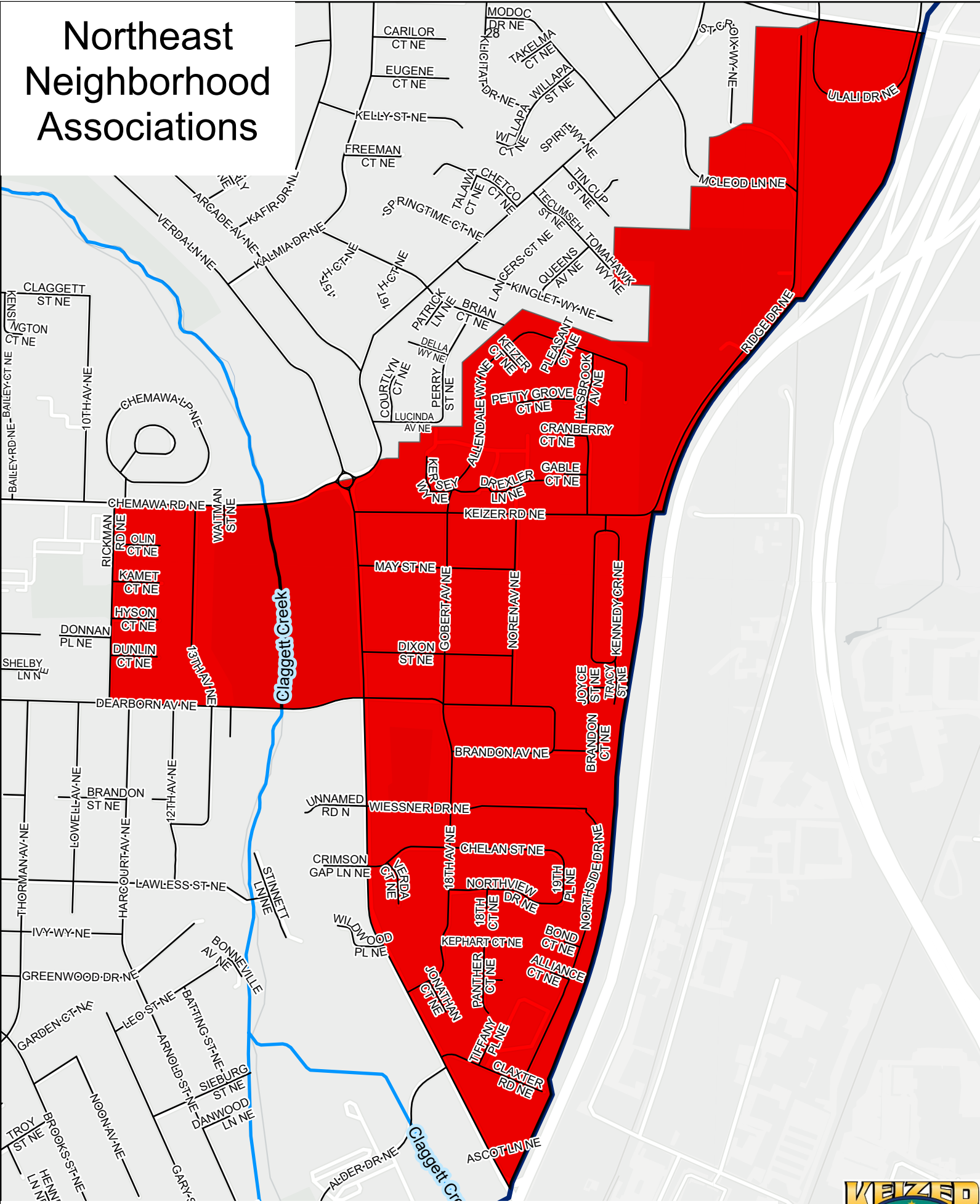
(b) The bylaws shall be reviewed by the Board or by a special committee once each year prior to the annual general meeting to assure that they adhere to the principles and purpose of the Neighborhood association as follows:

(i) To provide Board representation from all areas and districts within the Association

(ii) To represent the greatest number of Association members.

(iii) To provide clear and consistent rules guiding the Association and its activities.

Northeast Neighborhood Associations



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Northeast Keizer Neighborhood Association Special Session meeting 11/4/21

People who attended this special session; Jacqueline Green, Tammy Kunz, Antonio, Maggie F, Monica S, Jim J

Topic: Voting on guidelines, boundaries, and bi-laws

First order of business is to look at the boundaries to see if this works for this area's needs. Questions about the boundary lines are covered are does this finish off the Keizer area needs for support? Yes, I believe this covers Keizer needs for the uncovered by other neighborhood Associations. Voted to pass boundaries 6 people voted yes.

A second question was bi-laws any concerns as we read each one to be sure we are on the same page. No questions at this time. Should be voted on to accept as is and revisit at a later date if needed. 6 says passed

Next order of business is to look at the guidelines to see if we need to add more and be sure everyone is on the same page. No questions at this time. Motion to pass 6

Minutes Kept by Antonio this week seconded by Maggie F

Question raised any other questions or concerns to cover at this time. No meeting Adjourned.

Northeast Keizer Neighborhood Association Meeting notes from November 18th 2021

People who attended; Jacqueline Green, Tammy Kunz, Antonio, Maggie F, Monica S, Jim J

Topic; Voting on roles;

President; Tammy Kunz passed by 6 votes

Vice President; Jacqueline Green Passed by 6 votes

Secretary / Translator – Antonio Rhoads Lopez until Secretary is found then just translator
Passed by 6 votes as a temp until a person can take over Secretary as I am willing to translate.

Dec Meeting; Because of Holiday and school being out for holiday break can we meet in January
2022. Put to votes passed by 6 votes.

Next order of business is we covered each of the job duties and found that Antonio can attend
when not on the work schedule and Jacque and Tammy would help keep the minutes. Monica
says she will think about taking a role on but needs to clear it with family and see if she can
rearrange work schedule, as she works nights.

Each person in attendance agreed to share with other friends and neighbors to help spread the
word.

Other topics covered briefly is making time to do the footwork to get this group listed with city
website, and start creating ideas of Facebook, next-door, and others to help spread the word.

Finding out how to make a better meeting place; look into city hall for a small room and moving
once we grow bigger to a larger room. Plus, funding to get signs and other items made with our
information on it to build a better network for growth of the association to advertise.

Antonio Lopez

Tammy Kunz

Jacqueline Green

Northeast Keizer Neighborhood Association Special Session meeting 3/17/2022

Meeting March 17th 2022

The first order of business is call to order. Time started was 7:45pm Tammy Kunz and Jacqueline Green went to the Traffic Safety/ Bikeways and pedestrian committee meeting to share the concerns we covered in the last meetings. Both express as a good reason for being 2 minutes late. Sorry for the tardiness.

Attendance; Tammy Kunz, Jacqueline Green, Amanda Smith, Antonio Lopez, Maria Gomez, Mike Williams, Maggie F, Monica S, Jim J

On 9/8/21 we took votes on who would be in what position. It has come to my attention we need to do this by nominations each time and vote. I would really like to do this in this meeting. This way we can start off right even if we have not gone before City Council to get yes passed or no not at this time vote.

Let us start with President, then Vice President, Secretary

Amanda made a nomination for Tammy to be president and Mike gave a second. All in favor say yes, unanimous Vote passed. Maria nominated Jacqueline for Vice President and Antonio gave a second all in favor say yes, passed unanimous. Maggie nominated Antonio for secretary all in favor say yes and passed unanimous. Tammy asked if anyone was interested in other positions the answer was no not at this time. please keep in mind we still need other members one for treasure and someone to commit to secretary full time and Antonio will move to just translator.

President Tammy Kunz

Vice President; Jacqueline Green

Secretary / Translator – Antonio Rhoads Lopez

The next order of business is looking at the boundaries of Kennedy Elementary School for our Neighborhood Association., as you can see the boundary looks simple. The school board map is the best one to use for this, does anyone have questions or concerns. Maggie

asked about the walk to school and lack of sidewalks? Tammy addressed this concern and wanted to know if these boundaries work for everyone, Antonio made a nomination to adopt these boundaries Maria gave a second, all in favor say yes, it passes unanimous.

As we have passed around the by-laws and packet of information are there concerns or questions? The only question is to make the welcome packet smaller at first and not so overwhelming. I think this is a great idea, let's all take a look at this and use this for the next topic at the meeting. I will send everyone an email with the packet and let come up with ideas of how to work on the welcome packet and see if we can all bring one person to the next meeting.

Topic: Voting on guidelines, boundaries, and bi-laws

First order of business is to look at the boundaries to see if this works for this area's needs. Questions about the boundary lines are covered are does this finish off the Keizer area needs for support? Yes, I believe this covers Keizer needs for this meeting of Northeast Keizer Neighborhood Association.

Starting from Chemawa Road NE and Lockhaven Road NE to Ulali Dr. at Seven 11 plaza

Chemawa road at Lockhaven we have St.Croix way at McLeod Ln NE, Keizer Station apartments and the area in between Ridge Dr. NE as it follows around to turn into Keizer Rd. NE, Bonaventure at Keizer Station

The ride hand side of the road boundaries' are coming from the Keizer ball park. We have Hasbrook Ave NE to Allendale Way NE including;

Gable CT NE; Cranberry Ct NE; Petty Grove CT NE

The left hand side is Kennedy Meadows Mobile Home Park

Then off of Allendale Way CT NE to Kersey NE as it connects to Drexler Ln NE, to Keizer Terrace Apartments as it meets on Keizer Rd NE

Then we have Noren Ave NE to Gobert Ave Net to May St NE to Dixon St.NE with this community as it moves over to Verda Ln NE ;Gobert Ave NE to 19th Pl NE to Brandon Ave NE as it meets with 18th Ave NE, Connects to Weissner Dr.NE turns into Northside Dr.NE to 18th

Ave NE includes; Chelan St.NE ;Kephart CT NE, Panther CT NE, Jonathan CT NE and Tiffany PL NE to Verda Ln NE follows to Wildwood Pl NE Heading to Dearborn Ave NE, We have Crimson Cap Ln NE,

Part of this includes the neighborhood surrounding Dearborn Ave NE to Claggett Creek back to the roundabout on Verda Ln NE, and Chemawa Rd NE

Claggett Creek Park is included here and the surrounding side streets from 13th Ave NE to Rickman Rd NE, to Chemawa Rd NE, includes Olin CT NE, Kamet CT NE, Hyson CT NE, Dunlin CT NE, moves to Rickman Rd NE as it connects to Dearborn Ave NE

Dearborn Ave NE neighborhood included are as follows; 13th Ave NE, 12th Ave NE, Harcourt Ave NE, to Lawless St.NE, and intersect at Lowell Ave NE, as Lawless Ave NE moves towards Thorman Ave NE, Ivy Way NE, this in turn puts Called to be Free Cell Store in Association as well.

Other places included are Briarwood Manor, Bonaventure at Keizer Station serves resident for the senior side. Keizer Station Apartments, Keizer Terrace apartments, Keizer Station Apartments Back, Keizer Little League Park, , Claggett Creek Park is shared with Weddle , Corner Stone Christian School and Park meadows community, Briarwood apartments and more.

Kennedy Meadows Mobile Home Park and Rainbow Garden mobile home Park, and Churches and places of worship; Kingdom Hall of Jehovah's Witnesses, Dayspring Fellowship, Countryside Christian Church and more; Voted to pass boundaries 9 people voted yes.

A second question was bi-laws any concerns as we read each one to be sure we are on the same page 11. No questions at this time. Should be voted on to accept as is and revisit at a later date if needed. 9 says passed

Next order of business is to look at the guidelines to see if we need to add more and be sure everyone is on the same page. No questions at this time. Motion to pass 9

Minutes Kept by Antonio this week seconded by Maggie F

Question raised any other questions or concerns to cover at this time. Tammy explained where we in the process of gaining Recognition with the City of Keizer, Hopes of the month of April if all goes as planned.

No, objections to ending this meeting, Adjourned, have a great rest of your night.

Minutes taken Antonio Lopez

Signed By Tammy Kunz (Tammy Kunz) Dated 3-21-22

Northeast Keizer Neighborhood Association Special Session meeting 4/19/22

Attendance; Tammy Kunz, Jacqueline Green, Amanda Smith, Antonio Lopez, Maria Gomez, Mike Williams, Maggie F, Monica S, Jim J

Special meeting called to make the deadline for City Council Calendar regarding boundaries lines to become recognized by the city council in order to seek more community involvement.

The area represented by the Association is bounded by:

Top of the boundary Dearborn Ave NE between River Rd and Verda
Right boundary Verda Ln NE between Dearborn Ave NE and SE city

limits / Salem Parkway

Left River RD N between SE city limits and Dearborn Ave NE

Bottom City limits along the Salem Parkway between River RD N and Verda Ln NE

Meeting was done over zoom as not everyone was able to be in one place, Tammy Called the meeting to order at 9:30 pm and we covered the new boundary lines Jacqueline made a motion to adopt the new boundaries, Mike second and all voting was done with yes or no. All said yes and the new boundaries are agreed upon.

Other business covered was the next meeting will depend on becoming recognized by the City Council, as we covered the budget estimation needed for signs, newsletters, Door hanger for outreach and information packets to have available at the meetings. The few months cost may be a bit higher and we would need to seek about \$800.00 to \$900 .00 to get things up and running smooth. Tammy Said she is going to call Tim Woods in the next couple of days to get this process started.

Last call for input or topics to cover; none

Tammy Kunz president adjourned meeting at 10; 15pm with a special thanks for attending at such a late time.

Northeast Keizer Neighborhood Association Special Session meeting 4/28/22

Attendance; Tammy Kunz, Jacqueline Green, Amanda Smith, Antonio Lopez, Maria Gomez, Mike Williams, Maggie F, Monica S, Jim J

Special meeting called to make the deadline for City Council Calendar regarding boundaries lines to become recognized by the city council in order to seek more community involvement.

The area represented by the Association is bounded by:

We have enclosed a map with these boundaries. As we begin meeting we can add more information as it is made available, through the board as it grows.

Tammy shared her thanks for everyone being on top of things and fitting in the extra meeting in order to reach recognition from the City Council goal is for the 2nd, Tammy Stated we missed this one and now are set for May 18th hoping we ironed out all the fires.

Meeting was done over zoom as not everyone was able to be in one place, Tammy Called the meeting to order at 7:30 pm and we covered the new boundary lines Jacqueline made a motion to adopt the new boundaries, Mike second and all voting was done with yes or no. All said yes and the new boundaries are agreed upon.

Tammy was asked to create a Facebook page, and consider doing twitter to spread the word. We tossed around some ideas and agreed to cover this in more detail at the next meeting. Tammy would also like support in creating the web page so everyone get to have some input.

Other business covered was the next meeting will depend on becoming recognized by the City Council, as we covered the budget estimation needed for signs, newsletters, Door hanger for outreach and information packets to have available at the meetings. The few months cost may be a bit higher and we would need to seek about \$800.00 to get things up and running smooth. Tammy Said she is going to call Tim Woods in the next couple of days to get this process started.

Last call for input or topics to cover; none

Next meeting May 18th the 3 Wednesday of the month.

Tammy Kunz president adjourned meeting at 9:15pm with a special thanks for attending at such a late time.

Northeast Keizer Neighborhood Association Special Session meeting 4/28/22 Revised minutes

Attendance; Tammy Kunz, Jacqueline Green, Amanda Smith, Antonio Lopez, Maria Gomez, Mike Williams, Maggie F, Monica S, Jim J

Special meeting called to make the deadline for City Council Calendar regarding boundaries lines to become recognized by the city council in order to seek more community involvement.

We have enclosed a map with these boundaries.

Tammy shared her thanks for everyone being on top of things and fitting in the extra meeting in order to reach recognition from the City Council goal is for the 2nd, Tammy Stated we missed this one and now are set for May 18th hoping we ironed out all the fires.

Meeting was done over zoom as not everyone was able to be in one place, Tammy Called the meeting to order at 7:30 pm and we covered the new boundary lines Jacqueline made a motion to adopt the new boundaries, Mike second and all voting was done with yes or no. All said yes and the new boundaries are agreed upon.

Tammy was asked to create a Facebook page, and consider doing twitter to spread the word. We tossed around some ideas and agreed to cover this in more detail at the next meeting. Tammy would also like support in creating the web page so everyone get to have some input.

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Last call for input or topics to cover; none

Next meeting May 18th the 3 Wednesday of the month.

Tammy Kunz president adjourned meeting at 9:15pm with a special thanks for attending at such a late time.

Northeast Keizer Neighborhood Association Special Session meeting 5/4/22

Topic is to review and put presentation for the city council together;

People in attendance; Tammy Kunz, Jacqueline Green, Amanda Smith, Maria Gomez, Mike Williams, Maggie F, and Donna Wells from Zoom

Getting right to business as we want to ensure things are ready for Tammy Kunz and Jacqueline Green to share with the Mayor and City Council so we can hit the ground running.

"We reviewed this portion for Donna who was new; a neighborhood association is formed based on the needs and desires of its residents. The purpose of neighborhood associations is to advocate for your neighborhood with local government, improve neighborhood amenities, and organize activities." Looking to be sure no-one wants to change it, voted 7 yes and 0 no. Passed and ready to go.

Boundaries lines next; this has been confusing and we now have good map to use and Jacqueline would like to have us say see map and we can adjust this as we grow and move forward. Mike gave a second and all voted yes. Tammy and Jacqueline have been working hard on this part I believe we need a special thanks for working so hard on this matter comes from Amanda Smith. Passed by 7/0 for the boundaries'.

Lastly we are reviewing By-Laws looking for errors and make sure we have everything ready and done. Looking for questions to be sure everyone is on the same page so far we are all doing great, as we finished reading these as we went around the room. One comment was made nice job to whoever helped put this information together and it setup us up for success. All 7 said leave as they are so the by-laws are complete.

Tammy reminded us to be mindful of the time and asked if there were other items we need to take care of at this time. Letter of intent and demographics came up and we covered the material for this Looking at the letter of intent well done I do not even believe we need to motion this but Jacqueline said lets vote and make sure we have it covered, Maria gave a second and passed 7 to 0. Next Maria made a motion to access the demographic as written and safe route to school, Amanda second and all passed by 7 to 0.

Any last business we need to cover; include in the email documents, Letter of intent, Boundaries, Map, Newsletter and minutes from our last 2 or 3 meeting. I think we are good, Amanda replied with budget do we need to include this. Mike says yes and made a motion just not to overlook anything that can add a delay, Maggie made a motion, and Amanda gave a second and passed to include the budget 7 to 0.

Any other business to cover; Reminder Bike safety at Civic Center, Lets adjourn and give these ladies a few days to relax and we will hear what happens. Tammy Asked if anyone would be able to attend and support Jacqueline said yes, as she already attends, Mike and Amanda will try to get off work early. Other replies were I will be watching and holding you up if needed by spirit.

Motion to adjourn by Jacqueline and second by Mike

Tammy Kunz typed up minutes and Thank you all for working so hard and being flexible in helping to get this group moving forward.

Northeast Keizer Neighborhood Association Special Session meeting 5/9/22

Attendance; Tammy Kunz, Jacqueline Green, Amanda Smith, Antonio Lopez, Mike Williams, Maggie F, Monica S, Jim J

Special meeting called to make the deadline for City Council Calendar regarding boundaries lines to become recognized by the city council in order to seek more community involvement. This is last Minute thank you all for agreeing to meet by zoom. Jim is joining us by Phone thank you for the extra steps to help ensure this gets off the ground.

We have enclosed a map with these boundaries, **please see map**

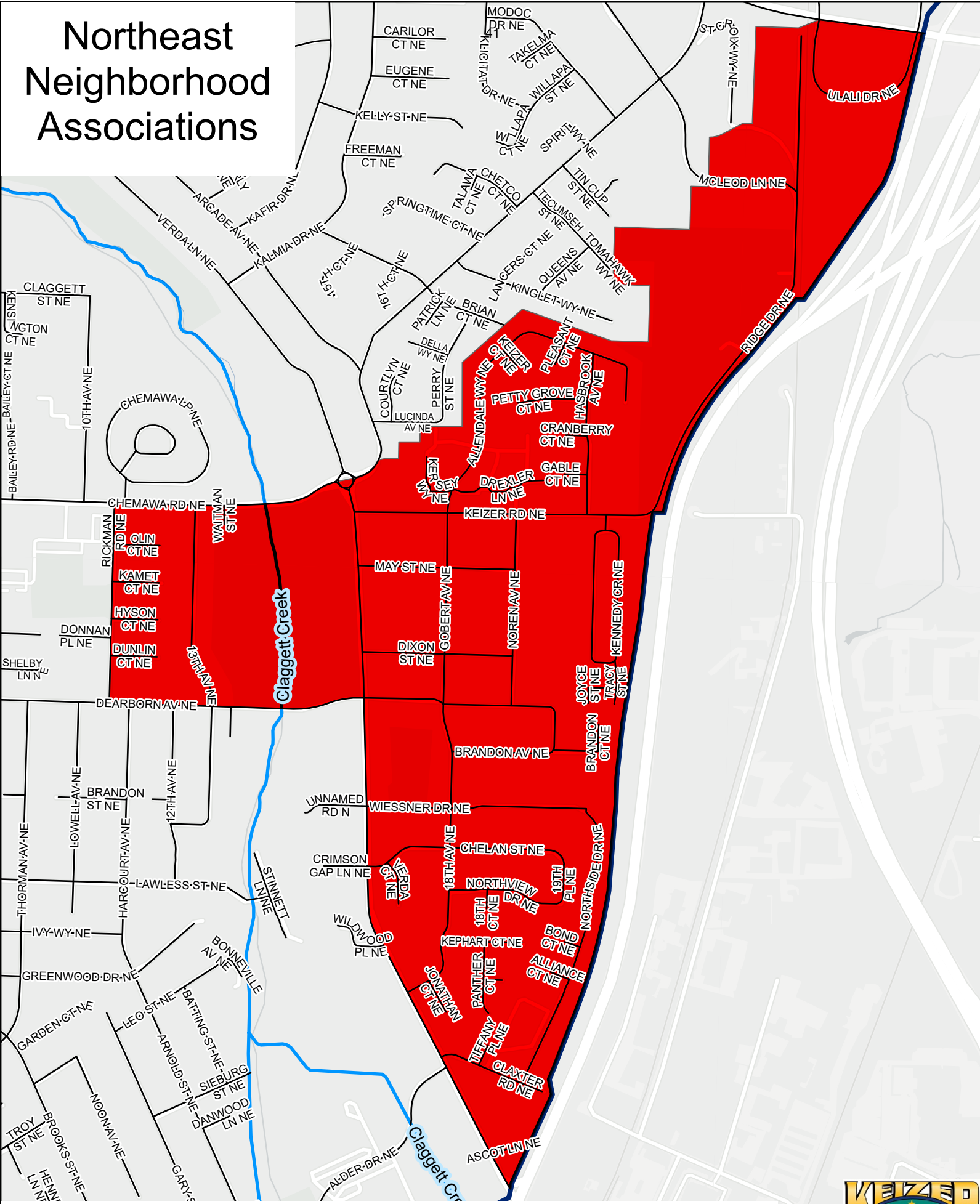
Tammy shared her thanks for everyone being on top of things and fitting in the extra meeting in order to reach recognition from the City Council goal is for the 2nd, Tammy Stated we missed this one and now set for May 18th hoping we ironed out all the fires. We are meeting because 5/10/2022 is the deadline.

Meeting was done over zoom as not everyone was able to be in one place, Tammy Called the meeting to order at 7; 30 pm and we covered the new boundary lines Jacqueline made a motion to adopt the new boundaries, by using the wording refer to map; Mike second and all voting was done with yes or no. All said yes and the new boundaries are agreed upon. Always refer to the map at this time.

Next meeting June 15th the 3 Wednesday of the month. (Subject to change)

Tammy Kunz president adjourned meeting at 10; 15pm with a special thanks for attending at such a late time.

Northeast Neighborhood Associations



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CITY COUNCIL, CITY OF KEIZER, STATE OF OREGON

Resolution R2022-_____

RECOGNITION OF THE NORTHEAST KEIZER
NEIGHBORHOOD ASSOCIATION

WHEREAS, the Council has adopted Ordinance No. 93-257 relating to the recognition of neighborhood associations;

WHEREAS, the Council finds that active neighborhood associations enhance the City’s citizen involvement program and provide an important two way channel for information relative to the activities of the City;

WHEREAS, Ordinance No. 93-257 is intended to provide a framework for establishment and recognition of neighborhood associations and to acknowledge such associations as legitimate representatives of the citizens and issues within their boundaries;

WHEREAS, the Northeast Keizer Neighborhood Association has requested the City Council for official recognition as a Neighborhood Association and approval of its boundaries under the provisions of Ordinance No. 93-257;

WHEREAS, the Council has found that the Association and its boundaries, by the provisions of its bylaws and its actions meet the criteria of Ordinance No. 93-257 for formal recognition;

NOW, THEREFORE,

1 BE IT RESOLVED that the City Council of the City of Keizer hereby grants
2 official recognition to the Northeast Keizer Neighborhood Association and extends to
3 the Association all rights, privileges, and responsibilities that come with such
4 recognition.

5 BE IT FURTHER RESOLVED the boundary of the Northeast Keizer
6 Neighborhood Association is set forth in the map attached as Exhibit "A".

7 BE IT FURTHER RESOLVED that this Resolution shall take effect immediately
8 upon the date of its passage.

9 PASSED this _____ day of _____, 2022.

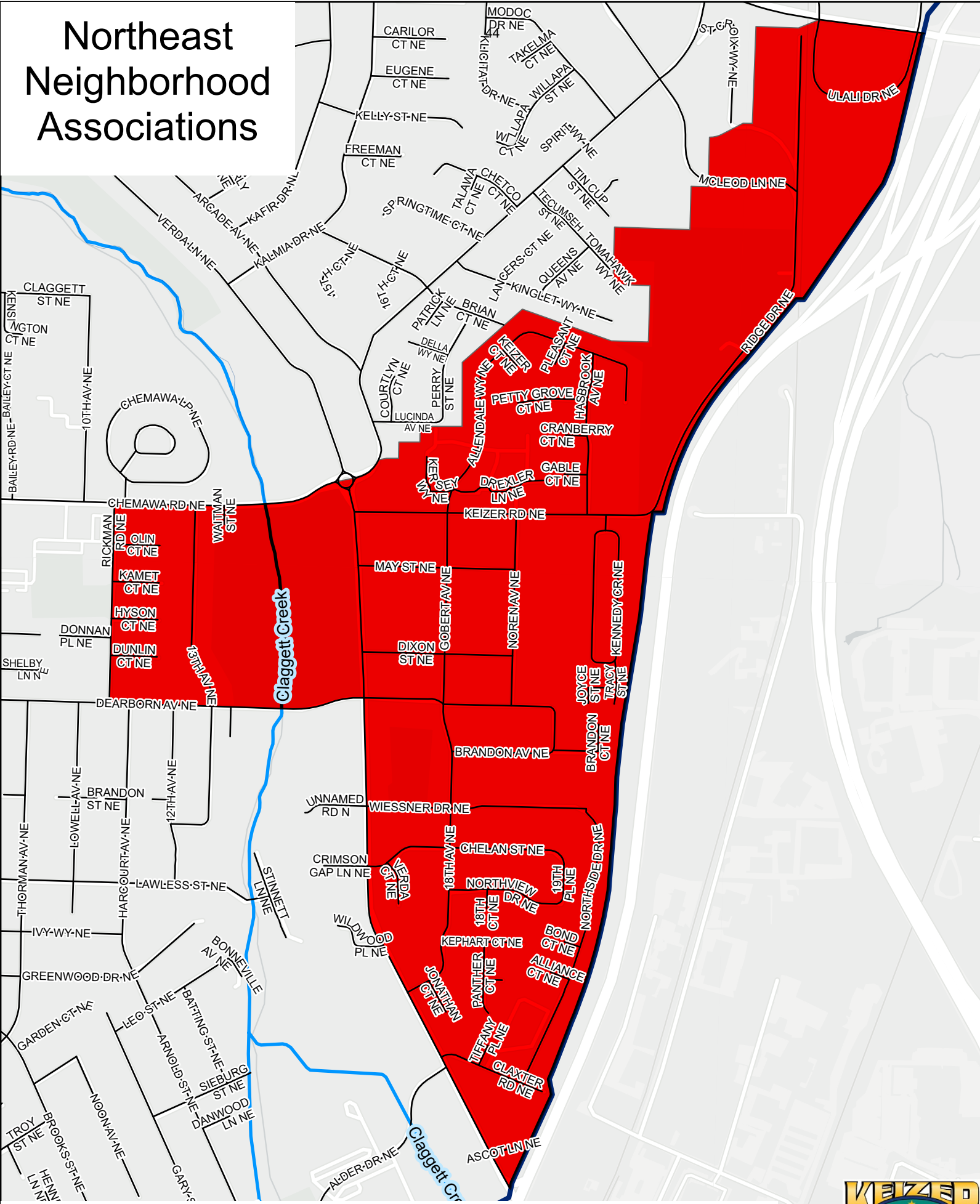
10 SIGNED this _____ day of _____, 2022.

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Mayor

City Recorder

Northeast Neighborhood Associations



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CITY COUNCIL MEETING: May 16, 2021

AGENDA ITEM NUMBER: _____

TO: MAYOR CLARK AND CITY COUNCIL MEMBERS

**THROUGH: ADAM J. BROWN
CITY MANAGER**

**FROM: TRACY L. DAVIS, MMC
CITY RECORDER/COMMUNITY CENTER MANAGER**

**SUBJECT: SOUTH EAST KEIZER NEIGHBORHOOD ASSOCIATION ANNUAL
REPORT**

BACKGROUND:

In June, 1993 the City Council adopted Ordinance 93-257 outlining the purpose and guidelines for recognition of neighborhood associations. The Ordinance states in order to maintain recognition, the neighborhood association shall make an annual report to the City Council. The report may be submitted in writing or made orally at a City Council meeting.

Ken Gierloff, Chair of the South East Keizer Neighborhood Association has submitted the attached written report for your review and consideration.

RECOMMENDATION:

It is recommended the Council accept the report and by motion extend recognition to the South East Keizer Neighborhood Association for an additional year.

South East Keizer Neighborhood Association Annual Report May 2022

Madame Mayor and City Council Members;

SEKNA has been struggling to remain a functioning entity. With the passing of one and the moving of other members our board has been brought to a minimum. Adding to that is the Covid pandemic. We are hopefully beginning a rebuilding phase of our existence. Best news is we still continue to function as

we continue to support our local schools, the Keizer food Bank, SE Keizer Community Center and others.

We struggle with blight creeping thru our neighborhood that Code Enforcement is unable to keep up with at this point though we all know hard the effort put forth.

We continue to try to keep our local students safe on their walk to and from school but have hit a road block with a parking/safety issue that we have been trying to resolve through Mr Lawyer.

We continue to work with neighbors on their hopes for a better, safer, clean neighborhood.

Thank you,

Ken Gierloff, President of SEKNA

COUNCIL MEETING: May 16, 2022

TO: MAYOR CLARK AND CITY COUNCIL MEMBERS

**THROUGH: ADAM J. BROWN
CITY MANAGER**

**FROM: TRACY L. DAVIS, MMC
CITY RECORDER/COMMUNITY CENTER MANAGER**

**SUBJECT: WAIVER OF COMMUNITY CENTER FEE – CASA OF MARION COUNTY
RESOURCE PARENT APPRECIATION DINNER**

SUMMARY:

The City has received a request from Carla Glavine, Administrative Services Manager at Court Appointed Special Advocates (CASA) of Marion County for a waiver of rental fees for the Keizer Community Center. CASA plans to host a Resource Parent Appreciation dinner on Thursday, May 26th. Details of the event are included in the attached letter of request. Based on an estimated attendance of 150 people, we recommend two Iris rooms for this event. The rental fee for the period of time requested is \$750 (5 hours @ \$150 per hour – includes 25% Keizer discount). The Community Center rental fee includes staffing costs of \$140. In addition, a \$750 refundable deposit is required. A certificate of general liability insurance will be required for this event.

Options for Council Consideration:

1. Grant the request for a complete waiver of fees associated with this event. (\$750 rental fee plus the \$750 refundable security deposit)
2. Waive the rental fee of \$750 and the refundable security deposit of \$750 but charge to cover staffing costs (\$140)
3. Deny the request for a waiver of fees.

RECOMMENDATION:

Staff recommends the City Council discuss the request, consider the options, and then direct staff accordingly.



May 6, 2022

Keizer City Council

RE: Fee Waiver Request for City of Keizer Community Center Use

Dear City Council Members:

My name is Carla Glavine and I am writing this letter as Administrative Services Manager for CASA of Marion County, the anchor site for Every Child Marion County. I am seeking a waiver of the \$1100 rental fee for the use of Iris A and Iris B for the time period of 3:00 pm to 9:00 pm on Thursday May 26, 2022 as we will be hosting a Resource Parent Appreciation Dinner.

Due to COVID, we have been unable to hold this event for the past two years. We feel it is very important to recognize Resource Parents for their commitment to serving our abused and neglected children in Marion County by opening their homes and navigating the complex systems, expectations, and requirements that come with being a Resource Parent. There is no cost for the Resource Parents to attend and we offer this as a small token of appreciation to say thank you during Foster Care Appreciation Month. There are currently 509 children in care in Marion County and only 180 resource homes. Their commitment to serving these children is invaluable in our community.

I appreciate your time and urge your favorable consideration of this proposal. I have provided my contact information below and would be happy to offer additional information.

Respectfully,

Carla Glavine
Administrative Services Manager
CASA of Marion County
(503) 967-6420

COUNCIL MEETING: May 16, 2022

TO: MAYOR CLARK AND CITY COUNCIL MEMBERS

THROUGH: ADAM BROWN, CITY MANAGER

FROM: TIM WOOD, FINANCE DIRECTOR

SUBJECT: COMMUNITY PROSPERITY INITIATIVE

BACKGROUND:

At the March 7, 2022 meeting, the City Council directed Staff to create a program to utilize the funds from the Marion County “Community Prosperity Initiative” agreement to provide for Food Truck Pods along River Road.

The agreement provides \$15,000 per year for two years. The initial \$15,000 will be available July 1, 2022 and must be spent by June 30, 2023.

The outline of the program provides for:

- 50% matching grant to businesses up to \$5,000,
- Funds will be provided on a reimbursement basis,
- Funds can be used towards predevelopment work, studies, and infrastructure for a food truck pod,
- Funds can be used to build new food truck pods or upgrade existing pod locations,
- Preference will be given to properties on River Road,
- Program will end when all funds are spent or March 31, 2023, and
- Funds not spent by March 31, 2023 will be reallocated to an alternate economic development project as determined by the City Council,

RECOMMENDATION:

Staff recommends the Council adopt the attached resolution adopting the outline of the food truck pod program.

CITY COUNCIL, CITY OF KEIZER, STATE OF OREGON

Resolution R2022-_____

ADOPTING ELIGIBLE PROJECT TO BE USED BY CITY FOR FUNDS RECEIVED FROM COUNTY UNDER INTERGOVERNMENTAL AGREEMENT FOR COMMUNITY PROSPERITY INITIATIVE

WHEREAS, Council authorized City Manager to sign the Intergovernmental Agreement between Marion County and City of Keizer for Community Prosperity Initiative at its January 21, 2020 meeting;

WHEREAS, Council authorized City Manager to sign an amendment to the Intergovernmental Agreement extending it for two additional years;

WHEREAS, Council directed staff to create a program to utilize the funds to provide for food truck pod improvements along River Road at its March 7, 2022 meeting;

NOW, THEREFORE,

BE IT RESOLVED by the City Council of the City of Keizer that the \$15,000 funding received during Fiscal Year 2022-2023 from Marion County under the Intergovernmental Agreement for Community Prosperity Initiative shall be used for a matching grant program for food truck pods. The grants shall include, but shall not limited to the following:

- 1. Each grant shall be to businesses with no more than \$5,000 per grant with a 50% match;
- 2. Funds will be provided on a reimbursement basis;

1 3. Funds can be used towards predevelopment work, studies, and
2 infrastructure for a food truck pod;

3 4. Funds can be used to build new food truck pods or upgrade existing pod
4 locations;

5 5. Preference will be given to properties on River Road.

6 BE IT FURTHER RESOLVED the program will end when the funds are spent or
7 March 31, 2023;

8 BE IT FURTHER RESOLVED that any funds not spent by March 31, 2023 will
9 be reallocated to an alternate economic development project as determined by City
10 Council;

11 BE IT FURTHER RESOLVED that the City Manager shall establish and
12 administer the program and take all further actions related to the program without further
13 Council action other than required budget adjustment or approvals.

14 BE IT FURTHER RESOLVED that the anticipated \$15,000 for fiscal year 2023-
15 2024 will be brought to Council for determination of an economic development project.

16 BE IT FURTHER RESOLVED that this Resolution shall take effect immediately
17 upon the date of its passage.

18 PASSED this _____ day of _____, 2022.

19 SIGNED this _____ day of _____, 2022.

20

21

22

23

24

Mayor

City Recorder



CITY COUNCIL MEETING: May 16, 2022

To: MAYOR CLARK AND CITY COUNCIL MEMBERS

FROM: Adam Brown, City Manager

SUBJECT: LIBRARY

PROPOSED MOTION:

I move the City Council direct staff to prepare a ballot question for referral to the voters for the November 2022 general election to see if the voters of Keizer wish to have a \$1 fee added to their water bills to support the expansion of the existing Keizer Community Library.

Or

I move the City Council direct staff to prepare an Ordinance to add a \$1 fee to the utility bill for the Keizer Community Library.

I. SUMMARY:

The Keizer Community Library (KCL) currently housed at the Keizer Cultural Center would like to expand services to be recognized as a public library. As a public library, the resources available to residents would be greatly expanded.

II. BACKGROUND:

- A. Keizer Community Library (KCL) submitted a proposal to the Keizer City Council for the City to fund the library for \$125,000 each year, which would likely allow the library to be recognized as a public library in Oregon. Requirements for becoming a public library are attached.
- B. A work group was formed by the Mayor to discuss the request by the Keizer Community Library. The amount requested annually cannot be sustained by the city general fund, so the option of a fee on the utility bill was suggested as an option. That prompted an additional question of whether the city council should do that on their own or by referral to the electorate in the November general election ballot.

Library Funding 2

III. CURRENT SITUATION:

- A. The work group discussed the issue of the City Council approving the additional fee on the water bill or referring the matter to the voters. The workgroup voted in a 2-1 split to refer the matter to voters.
- B. Discussion followed the workgroups recommendation about whether to ask for more than the \$125,000 request if the item was referred to ballot. No recommendation was made by the work group on this point. The following table gives a general idea of increments of fees and the corresponding yield, which may be helpful in determining funding levels. Past practice has been to keep the fees in whole dollar amounts, however, the Council can create the fee at any increment.

Fee	Fee Yield
\$0.75	\$125,000
\$1.00	\$166,667
\$1.25	\$208,333
\$1.50	\$250,000
\$1.75	\$291,667
\$2.00	\$333,333
\$2.25	\$375,000
\$2.50	\$416,667

IV. ANALYSIS:

- A. **Strategic Impact** – This action has no impact on the council’s short or long-term goals.
- B. **Financial**
1. The original funding request was for \$125,000. A \$1 fee generates approximately \$150,000. Under the suggested method of funding by a fee on the water bill, that amount would need to be \$0.75.
 2. Property owners, and to the extent to which they are passed on to tenants, already pay a tax rate of .0818 per thousand dollars of assessed value per year. That amounts to approximately \$16.36 per household. Homes valued above the median pay more and those below pay less. That tax will not go away with additional funding in the form of a fee or additional tax.
- C. **Timing** – The work group has recommended that the City Council refer the matter to voters for the general election in November of 2022. It would be important to determine that action now so that the appropriate information campaigns can have time to organize and disseminate information to the public.

Library Funding 3

- D. **Policy/legal** – The City Council has the authority to refer matters to the ballot. The City Council also has the authority to add fees directly to utility bills as has been done to with the public safety fee and the parks fee. The public library would constitute a new city service; however, of which is not currently being funded by city revenue.
 - 1. Ballot issues must be created by ordinance. The city attorney would need time to write the ordinance in time to meet the deadlines for the November ballot.

ALTERNATIVES:

A. Alternative A: Serial Levy

- 1. Another option to adding fees to the utility bill is creating a serial levy or special district levy. The advantage of a serial levy is that the tax burden is shared equally between the commercial and residential tax base. Under a water bill fee, a business will pay \$1 per month, the same as a resident. Under a tax levy, they would pay based on the assessed value of the property. This also means that homes that have values above the median value will pay more and homes under the median value will pay less.
- 2. It is true that a serial levy would have to be re-approved every 5 years; however, if the electorate adopts the serial levy, it is highly likely that they would continue the service if the program is run successfully.
- 3. Creating a permanent tax district adds unnecessary administrative costs. As a serial tax levy operated by the City of Keizer, the service can be provided at a reduced cost.
- 4. An example of tax yield by a serial levy can be seen in the table below. This uses the most recent median housing assessed value of \$200,100 versus the market value.

Tax	Tax Yield	Median Housing Value Cost
\$0.042	\$125,199	\$12
\$0.050	\$149,047	\$14
\$0.060	\$178,856	\$17
\$0.070	\$208,666	\$20
\$0.080	\$238,475	\$22
\$0.090	\$268,285	\$25
\$0.100	\$298,094	\$28
\$0.110	\$327,903	\$31
\$0.120	\$357,713	\$34

- 5. At the median housing value, generating \$125,000 would cost homeowners on

Library Funding 4

average \$11 per year whereas the same amount generated by the fee would cost residents approximately \$9 per year.

6. Another point to consider is that a tax levy grows and declines with inflation, whereas a fee only grows by adding more housing units.

B. Alternative B: Special Tax District

1. The same revenue associated with the serial levy would correspond to a special tax district; however, this would remove any ties the city has directly with any library operation because they would become their own governmental unit with their own governing board.
2. The KCL currently operates as a 501(c)3 non-profit organization. As a special tax district, they would need to have a governing body elected who would assume responsibility for the operation assuming they received cooperation with the current organization.

C. Take No Action

1. Under the current library benefit from CCRLS tax, Keizer residents can buy-up to get a full-service library card for \$60 per year. This allows them to exceed the 10-item limit currently capped under the tax benefit as well as accessing eBooks, eAudiobooks, and streaming movies. That benefit can be used at all CCRLS area libraries. Residents would be limited to the current benefit without the buy-up cost.

RECOMMENDATION:

Staff recommends that the Council consider the level of involvement the City should take in funding and governing the Library. With funding from the City Council, it is reasonable that the KCL would have more accountability to the City for their operations. A question to consider is Will the city fund the KCL without City involvement or will the City request more involvement in governance of the library because of city funding?

The simplest way to get the library to where it desires to be at this time is a fee on the utility bill. A special levy or special district can be considered in the long run since there are many more questions to answer. That leaves the question to whether it should be referred to the voters or not.

Council needs to direct staff as to which funding mechanism, should you choose to meet the request, is most desirable to meet the funding request from the Keizer Community Library.

ATTACHMENTS:

- Staff Report from City Attorney to Library Work Group
- Proposal from Keizer Community Library

MEETING: May 4, 2022

TO: KEIZER LIBRARY WORK GROUP

FROM: E. SHANNON JOHNSON, CITY ATTORNEY

**SUBJECT: FRAMEWORK FOR REVIEW
OF THE PUBLIC LIBRARY QUESTION**

This staff report is to assist the Keizer Library Work Group in working through the various issues in order to provide comprehensive and timely recommendations to the City Council.

The Keizer Community Library (KCL) has submitted a proposal for the City in which the City contracts with KCL for three years to operate a public library on behalf of the City. The proposal is the City would pay \$125,000 per year and at the conclusion of that time the City would establish permanent funding. Copies of the proposal and fact sheet are attached.

There are several issues to review: estimates of expenses, how a possible contract between KCL and the City would be structured, what types of services will be provided, and how ongoing expenses will be funded after the three year period, as well as the ultimate question of whether the Work Group wants to recommend moving forward with the proposal. Although the federal ARPA funds could pay for the initial three-year period, the City will have to come up with other funds after that. The Finance Director has clearly indicated that the library needs to have a new source of funding or there would be a reduction in service levels within the General Fund departments/ programs.

Therefore, if the City wants to move forward with the public library, it is very likely that a new funding source will need to be identified.

At the outset, the Work Group (and the Council) should consider the matter carefully and not be driven towards a hasty decision. The Finance Director has indicated that though the library proposal funding is not in the 2022-23 recommended budget, there are sufficient funds in the ARPA contingency line item for funding in the future.

The only real timing problem is if the Council wishes to place the matter on the November 2022 ballot. If that is the case, then the calendar has to be a bit tighter.

Given that there may be timing issues depending on the funding source, it may be appropriate to approach the questions in an order that may seem counterintuitive. It may be more efficient to determine the hypothetical funding question before details of the proposal are reviewed. In other words, assuming the library proposal is acceptable once all details are worked through, how should it be funded? With that in mind, the following is a suggested

framework for the Work Group to process for a preliminary recommendation to the City Council:

1. If the Work Group recommends establishing a permanent public library, what would be the recommended funding source? Here are the likely options:

- A. Reduction in funding in other departments/programs.
- B. Creation of a Library District.
- C. Addition of a fee on the utility bill.
- D. Referral of a serial levy to the voters.

Option A has already been addressed and obviously results in reductions to General Fund services. Option B (Library District) is more complicated than the other options, but has the advantage of a permanent tax base. The disadvantage is that it is not under City control; a separate board must be elected and it operates as a totally independent governmental jurisdiction like the fire district. It would seem to be inefficient to create a special district for this size of program.

Option C (Utility Fee) is a known quantity, as the City has had the police and parks fees on the utility bill for several years now. The amount of the fee could be set as a maximum with a maximum annual escalator provision.

Option D (Serial Levy) would require a vote of the people. It would provide property tax funding for up to five years, then it would have to go back to the voters every five years. The disadvantage of this method is the uncertainty of permanent funding because of the repeated requirement of going back to the voters.

If the Work Group preliminarily chooses Option A, then you would jump to Step 4 below. If the Work Group chooses Option B (Library District), then additional information would need to be gathered before proceeding to the next steps. As mentioned previously, the creation of a library district is more complicated than the other options and further review would be required. If the Work Group chooses Option C (Utility Fee), then you should go to Step 2. If the Work Group chooses Option D (Serial levy), then you should go to Step 3.

2. Assuming the Work Group recommends the creation of a public library, AND chooses Option C (Utility Fee), would the Work Group recommend sending the question to the voters?

Unlike the Library District or the Serial Levy options, the Utility Fee option is not required to be sent to the voters. However, the City Council could choose to refer the issue to the voters.

If the Work Group recommends sending the question to the voters, then you should go to Step 3 below. If the Work Group recommends having the Council determine the question, then you should go to Step 4 below.

3. If the Work Group decides to recommend the creation of a permanent public library AND the Work Group recommends either sending a Serial Levy or Utility Fee question to the voters, which election would you recommend it be placed on?

The most obvious date would be the November 2022 election. There is time to put either a Utility Fee or Serial Levy question on the November ballot. However, you may want to consider whether additional time to educate the voters would be helpful. The topic is in some respects not easy to grasp. Additional time to make the case to the voters could be appropriate. The disadvantage of waiting would be that the City would have to pay the cost of the election unless you waited until 2024. However, the Council could choose to start the three-year initial program in the interim.

4. How should the City deal with the KCL three-year proposal? The Work Group should consider whether commitment for the three years should occur prior to an election, if one is to take place. If there is to be no election, then a decision should be made on whether permanent funding needs to be established by the Council prior to entering into the preliminary agreement. In other words, establishing a public library for only three years may be misleading to the public if at the end of that time, there is no permanent funding available.

This issue would probably be moot if a decision is made to place the issue on the November 2022 ballot. In that case, since November is relatively soon, the commitment could wait until after the election.

The Work Group has a wide latitude as to the questions it reviews and when and how it makes recommendations to the Council. I would suggest that the Work Group make an intermediate decision soon on whether the matter should be placed on the ballot, and in what form and which election. The Council could preliminarily decide that matter which then drives the calendar. The Work Group would then continue to work on the details of the proposal.

RECOMMENDATION:

As a threshold matter, the Work Group should decide if they wish to use the suggested framework above, or some other method. You should then work through the analysis. I would suggest you then add questions that you would like to have staff or others review for the next meeting.

Please contact me if you have any questions. Thank you.



Keizer Community Library

A PROPOSAL:

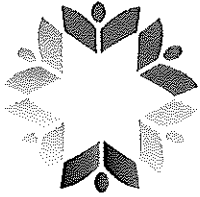
TO PROVIDE PUBLIC LIBRARY SERVICES AND SUPPORT TO THE CITY OF KEIZER

Keizer Community Library, a 501(c)(3), proposes to provide public library services and support to the residents of Keizer through a contract with the City of Keizer.

Under this contract, Keizer Community Library agrees to:

- Actively seek public library status from Oregon State Library in order to expand grant and other funding opportunities that support library services within the city.
- Actively seek membership in Chemeketa Cooperative Regional Library Services (CCRLS) which will expand the scope of library services available to Keizer residents.
- Employ a full-time qualified librarian to manage the day-to-day operations and programs of Keizer Community Library.
- Employ a part-time library assistant to support the daily operations of the library.
- Maintain an active, viable pool of well-trained library volunteers to staff the library and deliver programs.
- Continue to actively fund raise to support and sustain a variety of library programs.
- Develop collaborative summer reading programs with, and outreach to, the city's Salem-Keizer schools in an effort to improve student achievement standards.
- Provide monthly programs and activities that expand cultural and diversity awareness within the Keizer community.
- Provide outreach and library support to retirement villages within the city limits of Keizer.
- Develop and maintain on-going partnerships with business leaders and service organizations.

Keizer Community Library will provide these services for an annual fee of \$125,000, including rent, during the initial three-year contract. At a minimum, an initial three-year contract is required to support Keizer Community Library's effort to become a designated public library and attain membership in CCRLS, while continued city support will be necessary to maintain public library status.



Keizer Community Library

Funding Request from the City of Keizer

Personnel					\$ 99,097
	<u>Hourly wage</u>	<u>Salary</u>	<u>*Benefits</u>	<u>Total</u>	
Library Director – 1.0	\$35 x 2080 hrs	\$72,800	\$8,809	\$81,609	
Library Assistant - .5	\$15 x 1040 hrs	\$15,600	\$1,888	\$17,488	
Operating Expenses					\$ 11,500
Collection Development					\$ 4,403
Rent					\$ 10,000
Total funding requested					\$ 125,000

*Benefit costs include Social Security, Medicare and Worker's Comp



KEIZER COMMUNITY LIBRARY PROPOSAL FACT SHEET

The Keizer Community Library is proud of its volunteer heritage. The library will continue to depend primarily on volunteers, but a library that meets community needs cannot be sustained much longer solely through volunteer efforts.

- For the first time in our 30-year history, we have **contracted with a half-time library manager** to oversee the daily operations of the library.
- Working with teachers, we have begun to develop a **cooperative summer reading program** with Keizer Elementary schools to help address low reading, comprehension and math deficits among Keizer elementary school students, critical skills students will need to be successful in life.
- The **number of library cardholders and books circulating** has increased.
- The library has a **full 15-member Board that more fully represents the entire Keizer community**, including neighborhood and Latino Action Committee representatives.

Partnering with the City of Keizer to provide public library services would allow us to:

- **Hire a professional librarian** to manage the operations of the library.
- Meet the final of ten Oregon Revised Statute's requirements to become a **public library**.
- Meet the **Chemeketa Cooperative Regional Library Service's membership** standards and access the cooperative's resources to support the growing demands of Keizer residents.
- Access **federal and other funding opportunities** only available to public libraries.

Funding

- The **FY 2022 operating budget is \$53,000, our highest in history**. This funding comes from accumulated reserves and cannot be sustained through grants and donations in the long term.
- **\$125,000 from the city** will be used to cover the cost of a full-time librarian, a half-time library assistant, the library's lease, and very basic operating expenses.
- **With public library status and full CCRLS membership**, the library will qualify to receive formula-based reimbursements from CCRLS, potentially in the amount of approximately **\$75,000 annually**. Fundraising, grants and book sale revenue will be added to this amount by the library.
- These additional funds will be used to provide **programs, community outreach, equipment, and professionally selected books and media**. The current library collection has been developed using random donations of books and media.
- \$125,000 amounts to **\$3.17 per capita**, the second lowest rate in the state.
(See attached *Per Capita rate sheet*)

TIMELINE FOR FULL IMPLEMENTATION:

July 2022 – Adopt Memo of Understanding with City of Keizer and receive first year’s funding

Fall 2022 – Receive Public Library designation from the State Library

Fall 2022 – apply for CCRLS membership

Before the end of 2022 – hire full time librarian

Frequently Asked Questions section goes here:

- **What are the hidden costs?**

There are NO hidden costs. The library will contract with the City as outlined in its proposal. That’s it.

- **Is this the same proposal that was under discussion 10 or 15 years ago?**

NO. The library will continue to be a non-profit, volunteer-focused organization that operates independently of other public libraries. Requirements for public library status and CCRLS membership are clearly understood by the library’s Board of Directors.

- **Which organizations have regulatory authority over public library formation and operations?**

Only the State Library of Oregon is charged with verifying compliance with the Oregon Revised Statutes that define a public library. No other agency or organization, including Oregon Library Association (OLA), has regulatory authority.

(See attachment of *Minimum Conditions for Public Libraries in Oregon*)

- **Is it possible for the library to meet the required OLA/PLD Standards required for CCRLS membership?**

CCRLS requires that any library wanting to become a member meet a *preponderance* of the OLA/PLD Standards. Keizer Community Library will be able to meet 97% of these standards and achieve full membership immediately.

- **Will any organization tell the library which or how many books they have to buy?**

NO. The library will make those decisions independently. There are no requirements.

- **Will we have to move to a larger facility to qualify as a public library or CCRLS member?**

NO. While a larger space is recommended, there is no requirement to move the library to a larger location.

- **Where will the funding come from after the three-year allocation of ARPA funds?**

The library looks forward to working with the City of Keizer to identify future funding sources so that public library services that are key to our community’s wellbeing will continue permanently.

- **Will City costs rise dramatically after the three-year allocation of ARPA funds?**

NO. The only increase in costs will continue to be the addition of a COLA for staffing at the same level provided to city staff.

Library name	Population served	Revenue Per Capita	City Revenue or * District Revenue
KEIZER COMMUNITY LIBRARY	39,737	\$3.17	\$125,000
CCRLS LIBRARIES, SMALLEST TO LARGEST			
LYONS PUBLIC LIBRARY	1,200	\$45.83	\$55,000
AMITY PUBLIC LIBRARY	1,670	\$0.90	\$1,500
WILLAMINA PUBLIC LIBRARY	2,250	\$27.19	\$61,182
MARY GILKEY (DAYTON) PUBLIC LIBRARY	2,740	\$29.94	\$82,026
JEFFERSON PUBLIC LIBRARY	3,265	\$29.71	\$96,991
MT. ANGEL PUBLIC LIBRARY	3,465	\$43.89	\$152,079
SHERIDAN PUBLIC LIBRARY	6,205	\$35.09	\$217,739
STAYTON PUBLIC LIBRARY	7,870	\$49.44	\$389,069
INDEPENDENCE PUBLIC LIBRARY	9,530	\$42.11	\$401,321
MONMOUTH PUBLIC LIBRARY	9,920	\$61.32	\$608,349
DALLAS PUBLIC LIBRARY	16,260	\$33.39	\$542,965
*SILVER FALLS LIBRARY DISTRICT	20,606	\$49.28	\$1,015,508
NEWBERG PUBLIC LIBRARY	24,045	\$72.21	\$1,736,235
WOODBURN PUBLIC LIBRARY	25,135	\$39.18	\$984,860
MCMINNVILLE PUBLIC LIBRARY	33,930	\$44.46	\$1,508,464
SALEM PUBLIC LIBRARY	167,400	\$26.84	\$4,492,947
LIBRARIES IN FIVE NEXT SMALLER CITIES BELOW KEIZER			
MCMINNVILLE PUBLIC LIBRARY	33,930	\$44.46	\$1,508,464
SANDY PUBLIC LIBRARY	33,335	\$5.08	\$169,500
TUALATIN PUBLIC LIBRARY	32,814	\$18.56	\$609,076
WEST LINN PUBLIC LIBRARY	30,213	\$34.16	\$1,032,143
FOREST GROVE CITY LIBRARY	29,987	\$10.75	\$322,288

<https://www.oregon.gov/library/libraries/Documents/PLS/FINAL-OregonPLStats-2019-20.xlsx>

* Silver Falls is a library district that receives no city revenue.

For Public Libraries Serving Communities 2,000 or More

Does KCL currently meet this requirement?	Minimum Conditions for Public Libraries in Oregon
NO	1. Have at least one-half (50%) of its operational support from public funds
YES	2. Be open to the public a minimum of 20 hours per week
YES	3. Provide a collection comprising of books, media, or electronic resources
YES	4. Offer at least one free public access computer with internet access
YES	5. Offer free public wireless internet access (wi-fi)
YES	6. Provide a website that enables local library users to access State Library of Oregon resources and services available to all Oregon residents:
YES	7. Dedicate at least .50 full-time equivalent (FTE) paid staff time exclusively to library functions
YES	8. Have basic policies in place and accessible online for collection management, circulation and patron confidentiality that incorporates relevant American Library Association (ALA) professional ethical codes, rules, and guidelines. .
YES	9. Provide basic services for reference and youth services
Not required until KCL is a public library	10. Complete the annual statistical report as required under ORS 357.520 and OR 543-010-0035.

<https://libguides.osl.state.or.us/minconpublibs/2000more>

<https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=262857>

CITY COUNCIL MEETING: May 16, 2022**AGENDA ITEM NUMBER: _____**

TO: MAYOR CLARK AND COUNCIL MEMBERS

THROUGH: ADAM J. BROWN, CITY MANAGER

FROM: E. SHANNON JOHNSON, CITY ATTORNEY

SUBJECT: APPROVAL OF CONSULTANT’S REPORT RELATING TO WHEATLAND ROAD MULTI MODAL STUDY

At its January 10, 2022 Council work session meeting, the Council received a power point presentation and discussed the presented plan. The primary objective of the Wheatland Road Corridor Plan project was to develop a multimodal corridor plan and conceptual street design that removes barriers for all modes of travel. The consultant is recommending Alternative #3.

At its May 2, 2022 Council meeting, the Council approved the report of the consultant by Resolution R2022-3277. Following adoption of R2022-3277, the consultant forwarded the plan to the City with technical memorandums that were not included in the plan approved by the Council. Therefore, it is appropriate for the Council to approve the full report.

While the consultant involved the community throughout the process, this plan is not an amendment or subset of the Comprehensive Plan or Development Code.

RECOMMENDATION:

Adopt the attached Resolution approving and acknowledging the “Wheatland Road Corridor Plan – December 2021”.

Please contact me if you have any questions in this regard. Thank you.

ESJ/tmh

1 CITY COUNCIL, CITY OF KEIZER, STATE OF OREGON

2
3 Resolution R2022-_____

4
5 APPROVING REPORT OF CONSULTANT RELATING TO
6 WHEATLAND ROAD CORRIDOR PLAN; **REPEAL OF**
7 **RESOLUTION R2022-3277**

8
9 WHEREAS, staff has been working with DKS Associates to conduct a
10 conceptual design for the Wheatland Road corridor that would remove barriers for all
11 modes of travel and create an enjoyable experience for all users;

12 WHEREAS, the report was presented to the City Council at its January 10, 2022
13 work session;

14 WHEREAS, the Council adopted the plan on May 2, 2022 by Resolution R2022-
15 3277;

16 WHEREAS, a portion of the plan was not attached to Resolution R2022-3277
17 and therefore Resolution R2022-3277 should be repealed;

18 WHEREAS, the City Council desires to approve the report as attached hereto;

19 NOW, THEREFORE,

20 BE IT RESOLVED by the City Council of the City of Keizer that the attached
21 “Wheatland Road Corridor Plan – December 2021” is hereby approved and
22 acknowledged by the City Council.

23 BE IT FURTHER RESOLVED that the modified Alternative #3 as shown on
24 Page 11 and described on Page 10 of the Plan is adopted as the preferred Alternative for
25 the Wheatland Road Corridor.

1 BE IT FURTHER RESOLVED that such study is not an amendment or subset of
2 the Keizer Comprehensive Plan or the Keizer Development Code and this Resolution
3 does not constitute a land use decision.

4 BE IT FURTHER RESOLVED that Resolution R2022-3277 is hereby repealed in
5 its entirety.

6 BE IT FURTHER RESOLVED that this Resolution shall take effect immediately
7 upon the date of its passage.

8 PASSED this _____ day of _____, 2022.

9

10 SIGNED this _____ day of _____, 2022.

11

12

13

14

Mayor

15

16

17

City Recorder

WHEATLAND ROAD CORRIDOR PLAN

DECEMBER 2021

Adopted on May 2, 2022 (Resolution 2022-3277)



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DESIGN ALTERNATIVES AND TIER 1 SCREENING
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ACKNOWLEDGMENTS

CITY OF KEIZER

*Bill Lawyer, Public Works Director
Shane Witham, Planning Director*

DKS ASSOCIATES

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Bill Lawyer and Shane Witham (City of Keizer)*

01 EXECUTIVE SUMMARY

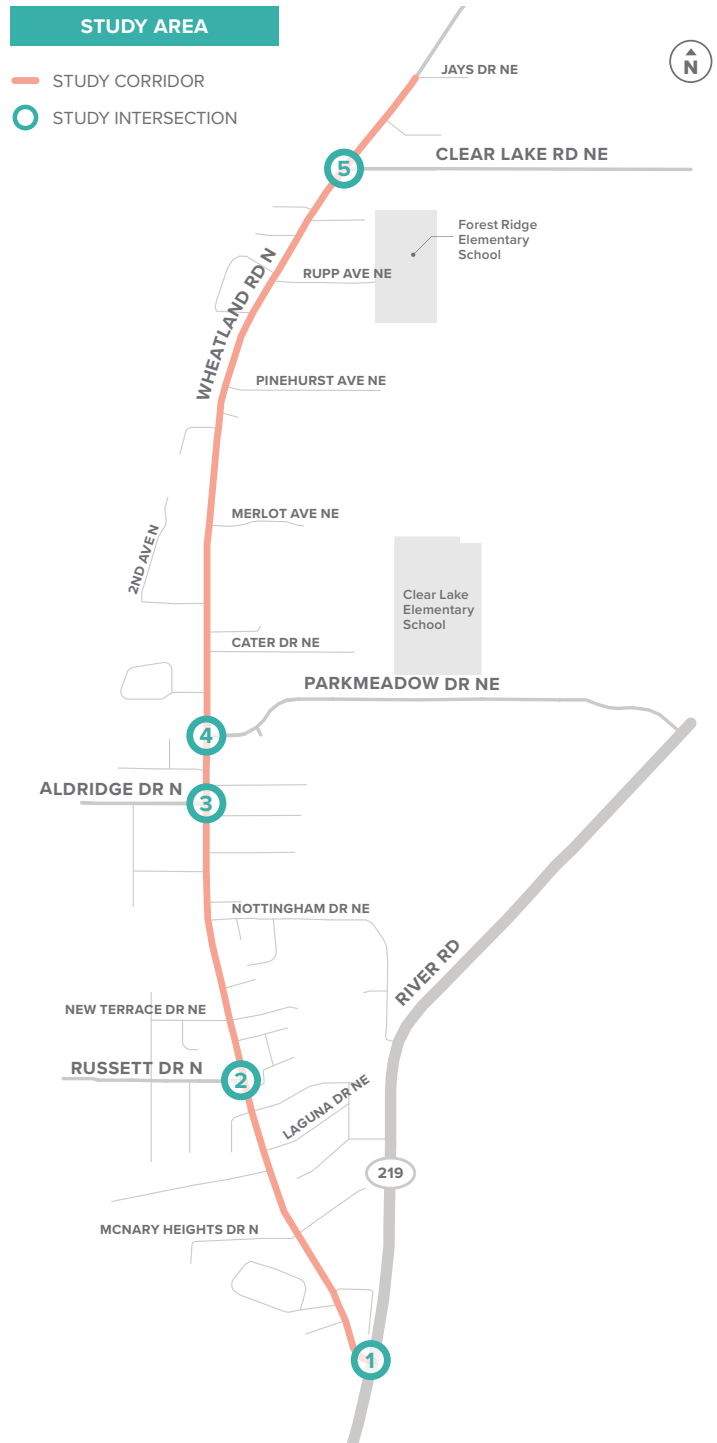


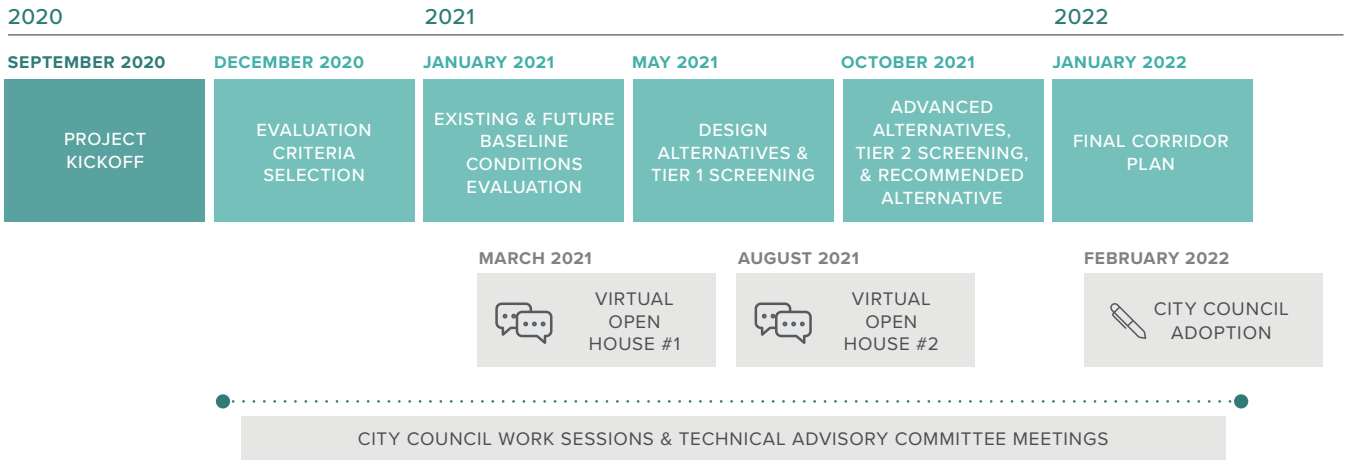
PROJECT INTRODUCTION, GOALS, AND RECOMMENDATION

The primary objective of the Wheatland Road Corridor Plan project was to develop a multimodal corridor plan and conceptual street design that removes barriers for all modes of travel, considers the latest urban safety improvements for pedestrians, bicycles, and transit riders, and creates an enjoyable experience for users. The project included community involvement to assure the design plan is consistent with the needs of key stakeholders (including neighborhoods, schools, and businesses).

The project area along Wheatland Road stretches from Jays Drive, in the north, to River Road, in the south, for a total of 1.8 miles in Keizer, Oregon. The project process included evaluating existing and future baseline conditions, identifying evaluation criteria, screening three project alternatives (Tier 1 Screening), selecting two project alternatives to further screen (Tier 2 Screening), providing a recommended alternative, presenting the findings to City Council, and then adopting the Final Corridor Plan.

Throughout the project, the project team took time to listen and understand community issues, thereby being able to address concerns to put together the best solution for this particular community. The project team received public input primarily through the two virtual open houses held at key stages of the project. Regular meetings were also held with the City and a Technical Advisory Committee (TAC).

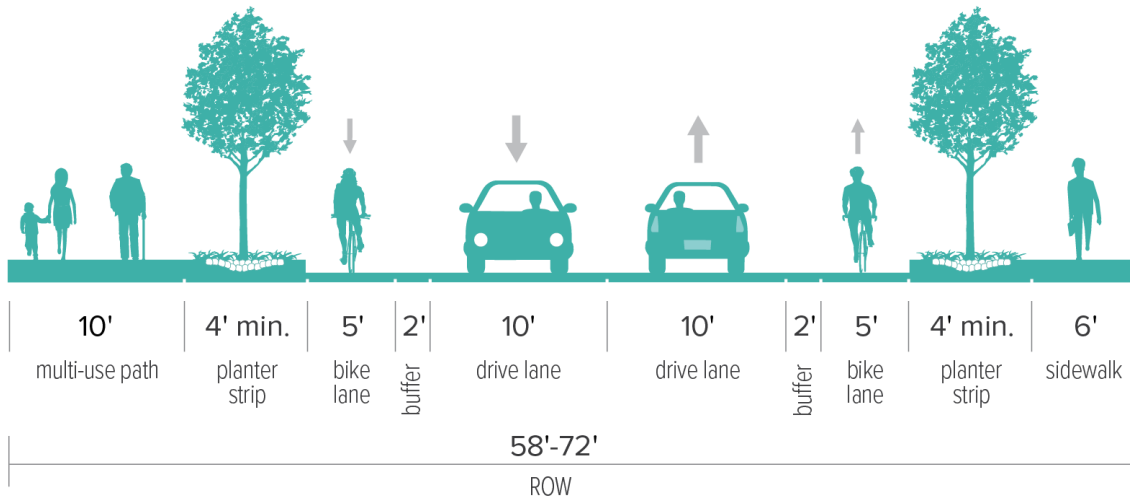




In weighing all the information identified in this study, including the City’s transportation goals, community feedback, estimated costs, and technical analysis, the project team recommends that **Alternative #3: Multi-Use Path with Buffered Bike Lanes is the**

best solution for Wheatland Road. This alternative is also the general community’s preferred alternative and is anticipated to be the safest option, helps support multimodal travel, and is consistent with community’s visions for Wheatland Road.

BUFFERED BIKE LANES & MULTI-USE PATH: WHEATLAND ROAD



EXISTING AND FUTURE BASELINE CONDITIONS

Existing transportation facilities and travel conditions on Wheatland Road were evaluated to establish a baseline for existing operations and to assess potential design alternatives and improvements to the corridor.

EXISTING TRANSPORTATION FACILITIES



The existing transportation facilities are summarized as follows:

- **Roadway Configuration:** Two travel lanes with on-street bike lanes
- **Pavement Condition:** Rated either good or very good condition, with some preventative maintenance recommended.
- **Roadway Context:** Majority residential/suburban uses with some commercial uses
- **Right-of-Way:** Width ranges from approximately 60 feet to 72 feet.
- **Sidewalks:** Intermittently spaced sidewalks of standard width and are typically located curbside. Large gaps in connectivity exist with safety concerns for pedestrians, especially young children. Walkability of corridor is generally rated

as “Poor.” The majority of curb ramps along the corridor are either missing or not meeting current ADA standards.

- **Marked Pedestrian Crossings:** Marked school crossings are located at Clear Lake Road and Parkmeadow Drive.
- **Bike Lanes:** Marked on-street bicycle lanes varying between five feet and six feet wide exist on both sides of Wheatland Road. Bikeability of corridor is generally rated as “Fair.”
- **Transit:** Cherriots (Salem Area Mass Transit District) services the southern end of the corridor from Parkmeadow Drive to River Road, with five southbound bus stops located within the project corridor vicinity. None of the transit bus stops currently have amenities or covered waiting areas.
- **Posted Speed Limit:** 40 mph, 85th percentile speed is 44-45 mph.
- **Street Lighting:** Non-uniform lighting throughout the corridor on Portland General Electric (PGE) utility poles.

TRAVEL CONDITIONS HIGHLIGHTS

A wide variety of measures were used to evaluate existing and future baseline travel conditions including traffic patterns, crash data, intersection operations, and quality of travel for pedestrians and bicyclists. Traffic volumes vary by time of day and follow a typical directional pattern; both the morning (AM) peak period (7am to 9am) and evening (PM) peak period (4pm to 6pm) were analyzed.

HIGHLIGHTS OF THE EXISTING TRAVEL CONDITIONS:

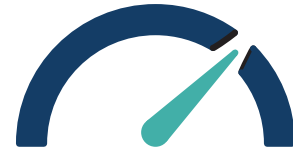


DAILY TRAFFIC VOLUME RANGES BETWEEN **5,300 AND 8,600** ALONG THE CORRIDOR



2.75 MINUTES AVERAGE **END-TO-END TRAVEL TIME** ON THE CORRIDOR DURING THE **PM PEAK PERIOD**

85TH PERCENTILE SPEEDS ARE UP TO 5 MPH HIGHER THAN THE POSTED SPEEDS



ALL STUDY INTERSECTIONS **MEET THE CITY'S OPERATING STANDARDS** FOR BOTH THE EXISTING (2020) AND FUTURE BASELINE CONDITIONS (2042)

IN THE LAST 5 YEARS, THERE HAS BEEN:



1 SERIOUS INJURY



3 PEDESTRIAN CRASHES



1 BICYCLE CRASH

RUSSETT DRIVE AND CLEAR LAKE ROAD INTERSECTIONS HAD **CRASH RATES HIGHER THAN 90% OF INTERSECTIONS OF SIMILAR TYPE IN OREGON**



EVALUATION CRITERIA

The goals, objectives, and policies for the future of Keizer’s transportation system are found in the City’s Transportation System Plan (TSP). These attributes guided the direction of the Wheatland Road Corridor Study and public process. Based on the goals, objectives, and policies, the following criteria were identified to evaluate the proposed design alternatives.

TIER 1 CRITERIA:

- Neighborhood Livability
- Environmental
- Utilization of Existing Infrastructure
- Traffic Operations
- Safe Routes to School
- Safety
- Transportation Mode Choices/
Multimodal Connectivity
- Equity
- Convenient and Accessible Transit
- Cost-Effective

TIER 2 CRITERIA:

- Traffic Operations (delay, queuing, and speed)
- Pedestrian and Bicycle Qualitative Assessment
- Safety Impacts (including Safe Routes to School)
- Right-of-Way and Utility Impacts
- Planning-Level Cost Estimates

VIRTUAL OPEN HOUSE #1 SUMMARY

Virtual Open House #1 was held from February 12th to March 21st (total of 38 days). The open house was accessed through the City’s project website¹ and provided the general public with digital posterboards, the two technical memoranda describing the existing and future baseline conditions and evaluation criteria, as well as a 10-question feedback survey. There were over 550 website views and 55 feedback surveys completed during the open house period.

38

38 TOTAL DAYS FROM FEBRUARY 12TH TO MARCH 21ST



550
WEBSITE
VIEWS

55 FEEDBACK
SURVEYS
COMPLETED



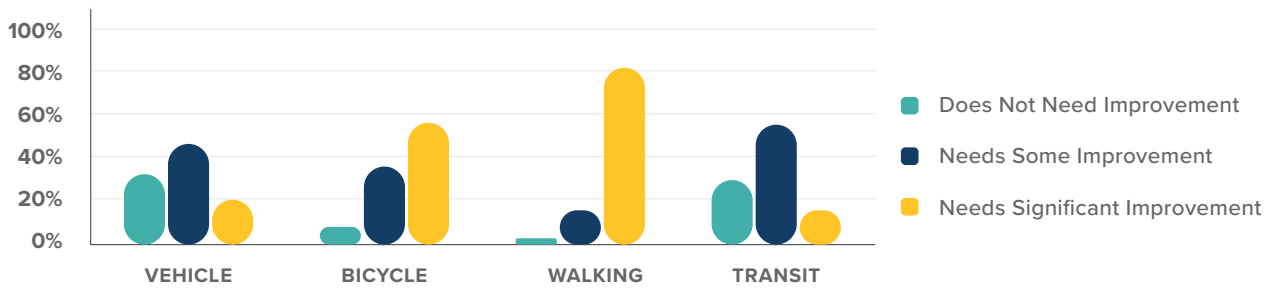
The primary goals of the open house were to determine community priorities and help identify any deficiencies in the corridor that the project team had not identified. The most significant feedback received from the survey is listed below:

- Walking and biking were the modes of travel with the biggest barriers.
- The most common corridor improvements recommended by the public were a multi-use path, continuous sidewalks, enhanced street lighting, and lower vehicle travel speeds.
- Safety, neighborhood livability, and Safe Routes to School were selected as the most important evaluation criteria.
- Over 60 percent of respondents said that they would support a speed limit reduction.

¹ <https://www.keizer.org/WheatlandRoadMultimodalCorridorPlan>

OPEN HOUSE #1: FEEDBACK SURVEY RESULTS

THE GOAL OF THIS PROJECT IS TO INCREASE SAFETY AND MOBILITY FOR ALL MODES OF TRAVEL. WHAT LEVEL OF IMPROVEMENT DO YOU THINK THESE MODE(S) OF TRAVEL NEED?

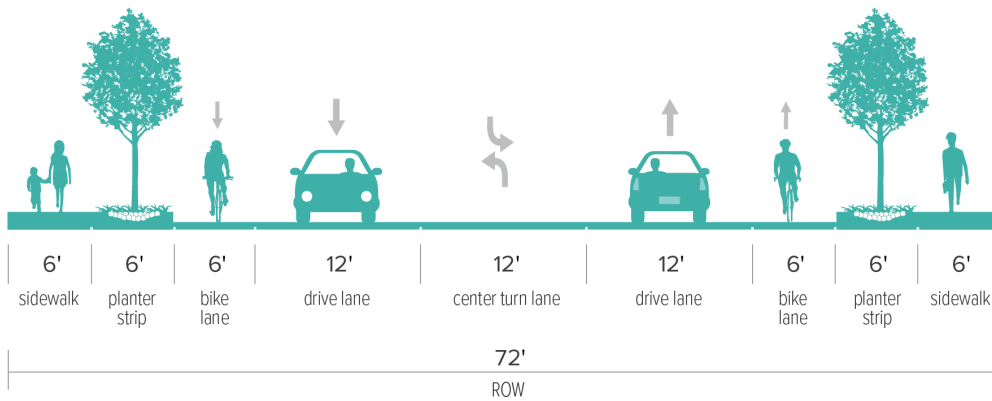


DESIGN ALTERNATIVES

Three conceptual design alternatives and an existing (No Build) scenario were proposed for consideration for the Wheatland Road Corridor. The variety of alternatives included various transportation elements: sidewalks, planter strips, bicycle lanes, bicycle

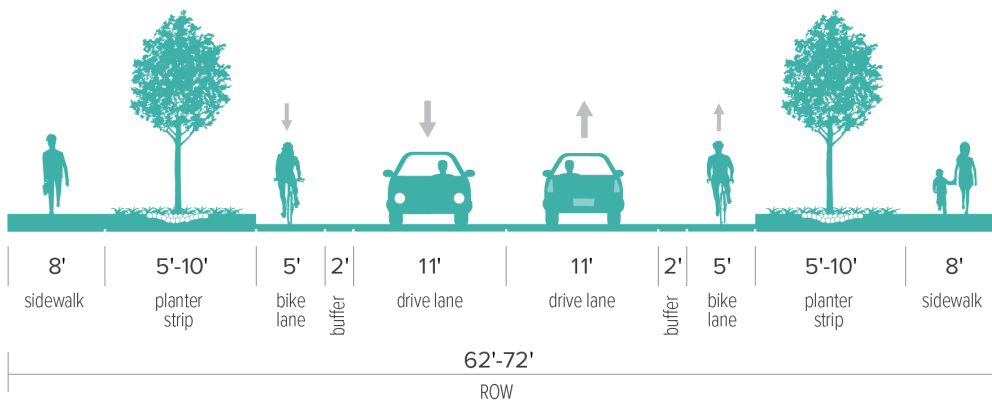
buffers, multi-use path, and vehicle travel lanes. Consideration was given to existing infrastructure and vegetation, right-of-way, and deficiencies and needs identified in Technical Memorandum #1. The three alternatives are shown below.

ALTERNATIVE #1: TRANSPORTATION SYSTEM PLAN



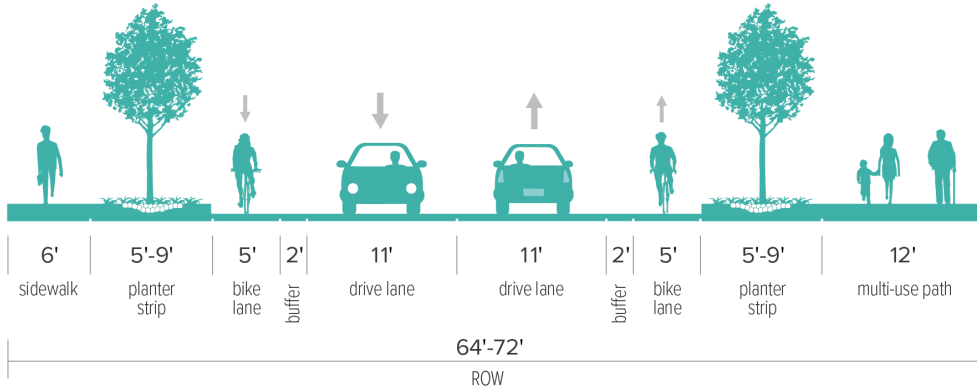
Alternative #1 is based on the City's standard for Minor Arterials and includes a center turn lane, sidewalks, on-street bike lanes, and planter strips.

ALTERNATIVE #2: BUFFERED BIKE LANES



Alternative #2 provides more comfortable bicycle facilities by adding a buffer and includes wide 8' sidewalks on both sides of the road.

ALTERNATIVE #3: BUFFERED BIKE LANES & MULTI-USE PATH



Alternative #3 provides a 12' multi-use path that accommodates cyclists of all ages and abilities as well as buffered bike lanes for more experienced riders.

TIER 1 SCREENING RESULTS

A Tier 1 Screening of the three design alternatives was performed to identify the alternative(s) that would most align with the goals, objectives, and policies of the City. This was done by scoring the alternatives based on the evaluation criteria previously determined. The criteria were scored over a range of -2 to +2 as compared to the Existing Configuration. A score of 0 implied that the alternative had no change from the existing, a negative score implied that the alternative degraded conditions, and a positive score implied that the alternative improved conditions. The scoring weighed each of the ten criterion equally.

All three alternatives were shown to be an overall improvement from existing conditions, with Alternative #3 having the most improvement and

Alternative #2 not far behind. The larger difference in scores between Alternative #1 and Alternatives #2 and #3 can be attributed to two factors. First, Alternatives #2 and #3 provide increasingly safer multimodal facilities. The buffered bike lanes and wider sidewalks are safe options for students going to/from school as well as the general public. The multi-use path in Alternative #3 provides additional safety for bicyclists of all ages and abilities. Secondly, Alternatives #2 and #3 have similar pavement cross section widths as the existing condition, meaning that road reconstruction would be less invasive than Alternative #1. More of the existing infrastructure could be utilized for Alternatives #2 and #3, also decreasing the total project cost.

TIER 1 SCORING RESULTS		
ALTERNATIVE #1 TRANSPORTATION SYSTEM PLAN 1.25	ALTERNATIVE #2 BUFFERED BIKE LANES 1.65	ALTERNATIVE #3 BUFFERED BIKE LANES & MULTI-USE PATH 1.75

VIRTUAL OPEN HOUSE #2 SUMMARY

Virtual Open House #2 was held from July 23rd to August 8th (total of 17 days). As with the first open house, the second open house was also accessed through the City’s project website and provided the public with digital posterboards, all technical documentation to-date, as well as a four-question feedback survey. There were over 740 website views and 196 feedback surveys submitted.



17

17 TOTAL DAYS FROM JULY 23RD TO AUGUST 8TH



740
WEBSITE VIEWS

196 FEEDBACK SURVEYS COMPLETED

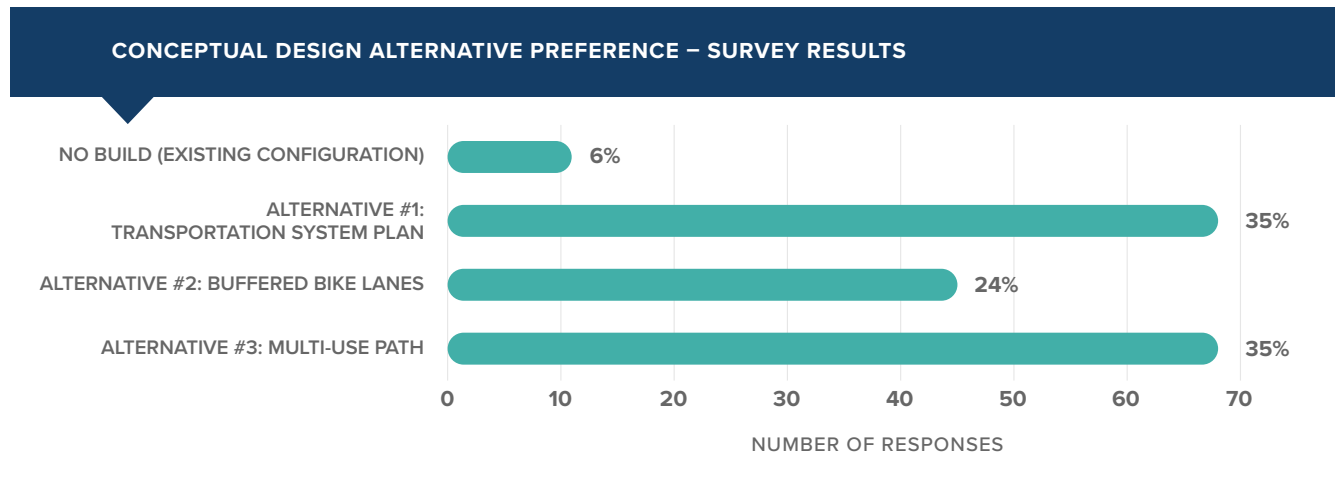


A few additional responses from the public were also emailed to the City staff directly. The primary goals of the open house were to gather community

input on the conceptual design alternatives and collect feedback on general project concerns. A few highlights of the survey responses include:

- Alternative #1: TSP and Alternative #3: Multi-Use Path and Buffered Bike Lanes were the most preferred design concepts, both receiving 35 percent of the votes, respectively. It is important to note that Alternatives #2 and #3 are very similar and because of this, most of the voters for Alternative #2 would likely support Alternative #3 over Alternative #1, making Alternative #3 the overall preferred option by the public.
- The most common comments in the survey were related to the following:
 - » Desire for safe and connected sidewalks and bicycle lanes
 - » Need for better street lighting
 - » Right-of-way private property impacts
 - » Landscaping/buffer/planter strips maintained
 - » Speeding

VIRTUAL OPEN HOUSE #2: FEEDBACK SURVEY RESULTS



ADVANCED TWO ALTERNATIVES

Based on the results of the Tier 1 Screening, feedback at the open houses, and direction from the City, Alternative #1: TSP and Alternative #3: Multi-Use Path and Buffered Bike Lanes were advanced to the Tier 2 Screening process, which included full-corridor concept layouts and planning-level cost estimates.

Alternative #3 scored the highest in the Tier 1 Screening of the design alternatives and Alternative #1 scored the lowest of the alternatives. However, Alternative #1 and Alternative #3 shared the highest percentage of votes (approximately 35 percent) based on the public feedback surveys. The City supported the advancement of Alternative #3 based on its high scoring in both the screening process and community feedback. Although Alternative #1 had low support based on the results of the Tier 1 Screening, the alternative received support by the public and was therefore advanced for final consideration.

MODIFICATIONS TO ALTERNATIVE #3: MULTI-USE PATH AND BUFFERED BIKE LANES

During the process of creating the full-corridor concept design layouts, the original cross section design for Alternative #3 was modified to better address the concerns voiced by the public during Virtual Open House #2. Many members of the public voiced their desire for the Wheatland Road project to minimize private property and right-of-way impacts and to provide safer, separated pedestrian and bicycle facilities for all users, including school-age children. Hearing this feedback, the Wheatland Road Technical Advisory Committee (TAC) did not feel as though the original cross section for Alternative #3 provided sufficient separation for users of the multi-use path from the vehicle travel lanes. In order to provide more separation, the multi-

use path was moved to the west side of the road where there was more available right-of-way and the width of the path was reduced from 12 feet to 10 feet. These two modifications increased separation and also reduced private property impacts.

During the cost estimating process, the TAC discussed ideas for improving cost savings for Alternative #3 to make the project more affordable. By reducing the travel lanes from 11 feet to 10 feet, a large cost savings was realized as the majority of the existing curb-to-curb width could be preserved along the corridor. Narrower travel lanes will encourage lower vehicle speeds, which was another major concern of the public. However, with the adjacent two-foot bicycle buffer, there is still adequate width for freight activity along the corridor.

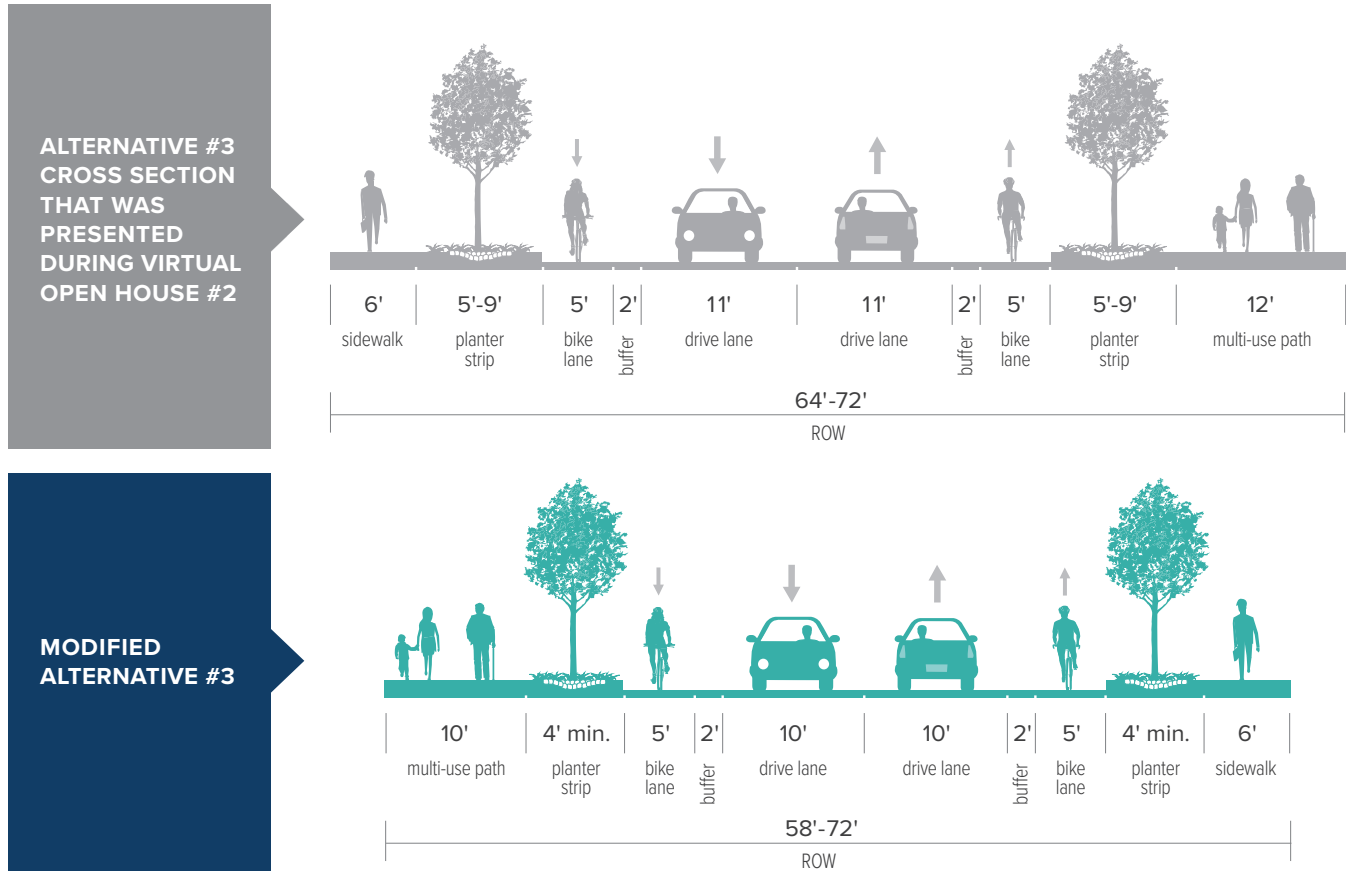
Overall, these modifications as well as some adjustments to street utilities, resulted in a reduction of 36% in planning level cost estimates for Alternative #3.

IMPROVEMENTS FOR EITHER ALTERNATIVE

Whether either alternative was selected, there are specific design improvements and details that are included for both alternatives. While they may be implemented in different ways due to cross section restraints, the following improvements were still applicable to both solutions:

- **Enhanced Pedestrian Crossings:** Enhanced pedestrian crossing treatments including median refuge islands, enhanced signing and pavement markings, and Rectangular Rapid Flashing Beacons (RRFBs) are options to consider. The primary intersections in consideration are the intersections of Clearlake Road, Parkmeadow Drive, Russett Drive, and McNary Heights.
- **Transit Treatments:** Enhancements to the bus stops can include bus stop shelters, open-air

REVISED WHEATLAND ROAD CROSS SECTION FOR ALTERNATIVE #3



benches, and bus stop loading space for transit riders that does not conflict with multi-use path users, called “Concrete Bridges.” These improvements will require collaboration with Cherrits during the design phase.

- **ADA Improvements:** All new sidewalks and curb ramps would be built along Wheatland Road and intersections would meet ADA standards. Today, nearly all curb ramps are out of compliance with current Americans with Disabilities Act (ADA) standards.
- **Practical Design Considerations:** Due to the nature of a pre-existing roadway, slight deviations to the chosen alternative cross section are expected in different sections of the corridor to match the existing infrastructure, reduce right-of-way impacts, and preserve mature trees as much as possible. This may include meandering sidewalks to save mature trees (e.g., existing oak

trees near Russett Drive) or the absence of a planter strip to mitigate right-of-way acquisition.

- **Street Lighting:** New street lighting will be installed at intersections and segments along the corridor. This may entail new streetlight poles and supplemental lighting on utility poles when applicable.
- **Streetscape Elements:** Where landscaping buffers are provided, pedestrians are further separated from the roadway to increase their comfort level. The alignment of sidewalks are intended to minimize impact to adjacent properties, existing landscaping, and existing mature trees, so the width of the landscaping buffer will change along the corridor. The landscaping can include low-lying vegetation and street trees. The street tree plantings would be consistent with City standards.

SUMMARY OF ADVANCED ALTERNATIVES COMPARISON

Five Tier 2 criteria were evaluated for the final comparison of the two advanced alternatives. These criteria reflected the City’s needs and most prominent comments received from the public.

TIER 2 CRITERIA EVALUATED:

- Traffic Operations
- Pedestrian and Bicycle Qualitative Assessment
- Safety Impacts
- Right-Of-Way and Utility Impacts
- Planning-Level Cost Estimates

Each criterion was analyzed for each alternative.

- **Traffic Operations:** Vehicle delay, queuing, and travel times were analyzed for each alternative. The center-turn lane in Alternative #1 provides slightly improved vehicle operations over Alternative #3 with the addition of a continuous left-turn lane.
- **Pedestrian and Bicycle Qualitative Assessment:** Walkability and bikeability scores were assessed for each alternative. Alternative #1 received a “Good” score due to complete sidewalks and standard bicycle lanes. Alternative #3 received an “Excellent” score due to the multi-use path and buffered bike lanes that provides facilities for all ages and abilities.
- **Safety Impacts:** Potential safety impacts

including the mitigation of crash variables for current users as well as the enhancement of the system to encourage usage from people who do not currently feel safe using the system. The two-way left-turn lane for Alternative #1 has the ability to reduce rear-end crashes for vehicles. However, in Alternative #3, the buffered bike lanes have the ability to reduce bicycle crashes; also, the proposed bicycle and pedestrian facilities, as a whole, have a greater ability to attract new users who are currently hesitant to use the system due to safety risks. A left-turn lane at the Russett Drive intersection was identified as a key safety need and is included in the concept.

- **Right-of-Way and Utility Impacts:** Alternative #3 requires 90 percent less ROW acquisition (in square feet) than Alternative #1 due to a narrower cross section.
- **Planning-Level Cost Estimates:** Alternative #3 is approximately half the cost to construct compared to Alternative #1 due to its smaller footprint and the ability to maintain existing infrastructure.

PLANNING-LEVEL COST ESTIMATES

ALTERNATIVE #1: \$17.9 MILLION

ALTERNATIVE #3: \$9.9 MILLION

TIER 2 SCREENING RESULTS

A Tier 2 Screening of the final two design alternatives was performed using the five criteria mentioned previously. The criteria were scored over a range of -2 to +2 as compared to the No Build (Existing Configuration) alternative, similar to the Tier 1 Screening. The average of the Tier 1 and Tier 2 screening scores are shown below.

Alternative #1 scored an average of 1.13 and Alternative #3 scored an average of 1.58 after both Tier 1 and Tier 2 screening evaluations. Both alternatives are shown to be an overall improvement from existing conditions, however Alternative #3 received a higher score.

The difference in scores between Alternative #1 and Alternatives #3 can be attributed to two basic differences amongst the designs which were similarly seen in the Tier 1 screening process.

- First, Alternative #3 provides higher quality multimodal facilities and caters more to safety than mobility, while not sacrificing any vehicular operational measures.
- Second, Alternatives #3 has a pavement cross section width that is similar to the existing condition and will require less additional right-of-way, meaning that road reconstruction and property acquisition would be less invasive than Alternative #1 and has a significantly lower cost estimate.

TIER 1 AND 2 SCREENING SCORES		
	ALTERNATIVE #1 TSP STREET DESIGN	ALTERNATIVE #3 BUFFERED BIKE LANES & MULTI-USE PATH
TIER 1 SCREENING	1.35	1.75
TIER 2 SCREENING	0.90	1.40
AVERAGE	1.13	1.58

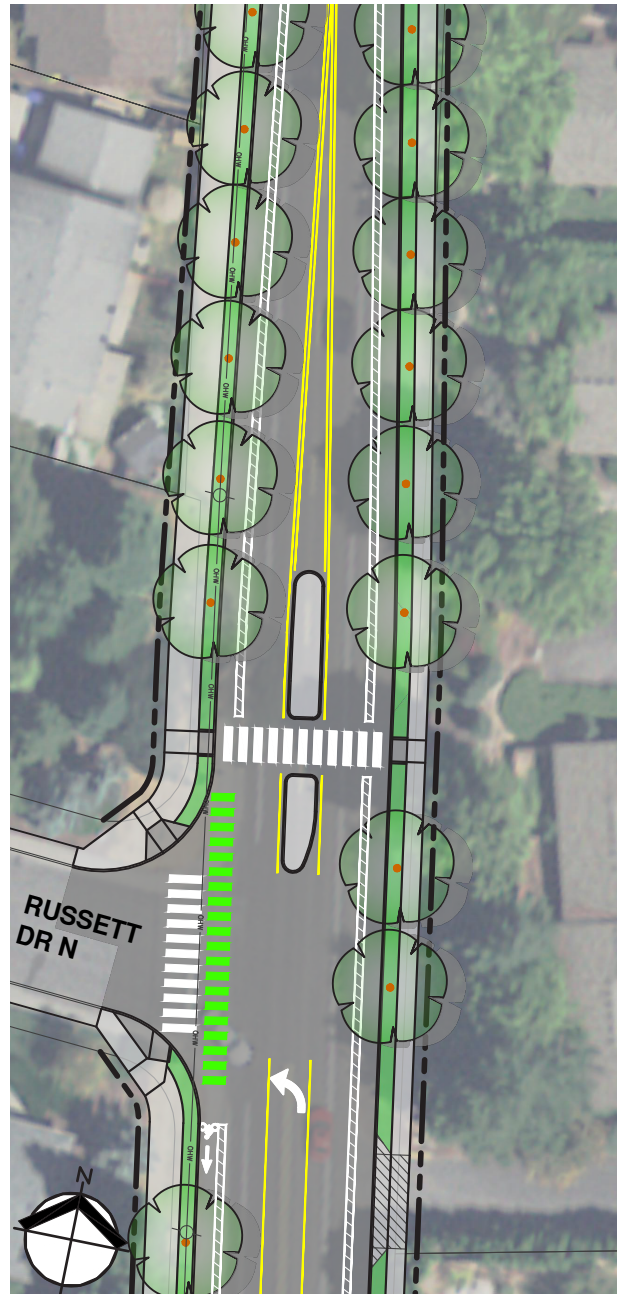
RECOMMENDED ALTERNATIVE

Based upon the results of the Tier 2 screening process, comments from the TAC, and the significant public input received, DKS recommends the following alternative for the Wheatland Road corridor:

ALTERNATIVE #3: MULTI-USE PATH AND BUFFERED BIKE LANES

Alternative #3 is best suited to meet the needs and desires of all users of the Wheatland Road corridor, specifically school-age users, while costing significantly less money and requiring less right-of-way and property impacts than the other alternatives. This solution was the preferred alternative from the general public and provides a safer system and multimodal travel options to improve what exists today. It both maintains the current level of traffic demand and is estimated to adequately accommodate future levels of traffic 20 years into the future. This alternative will also be more competitive to receive transportation funding because of the safety and multimodal design solutions provided.

The corridor plan presented is conceptual and changes to pedestrian improvements and landscaping details may occur during the design process.



02

TECHNICAL MEMORANDUM #1 EXISTING AND FUTURE FORECAST CONDITIONS





MEMORANDUM # 1

DATE: January 21, 2021

TO: Project Management Team

FROM: Scott Mansur, P.E., PTOE | DKS Associates
Jenna Bogert, E.I. | DKS Associates
Travis Larson, E.I. | DKS Associates

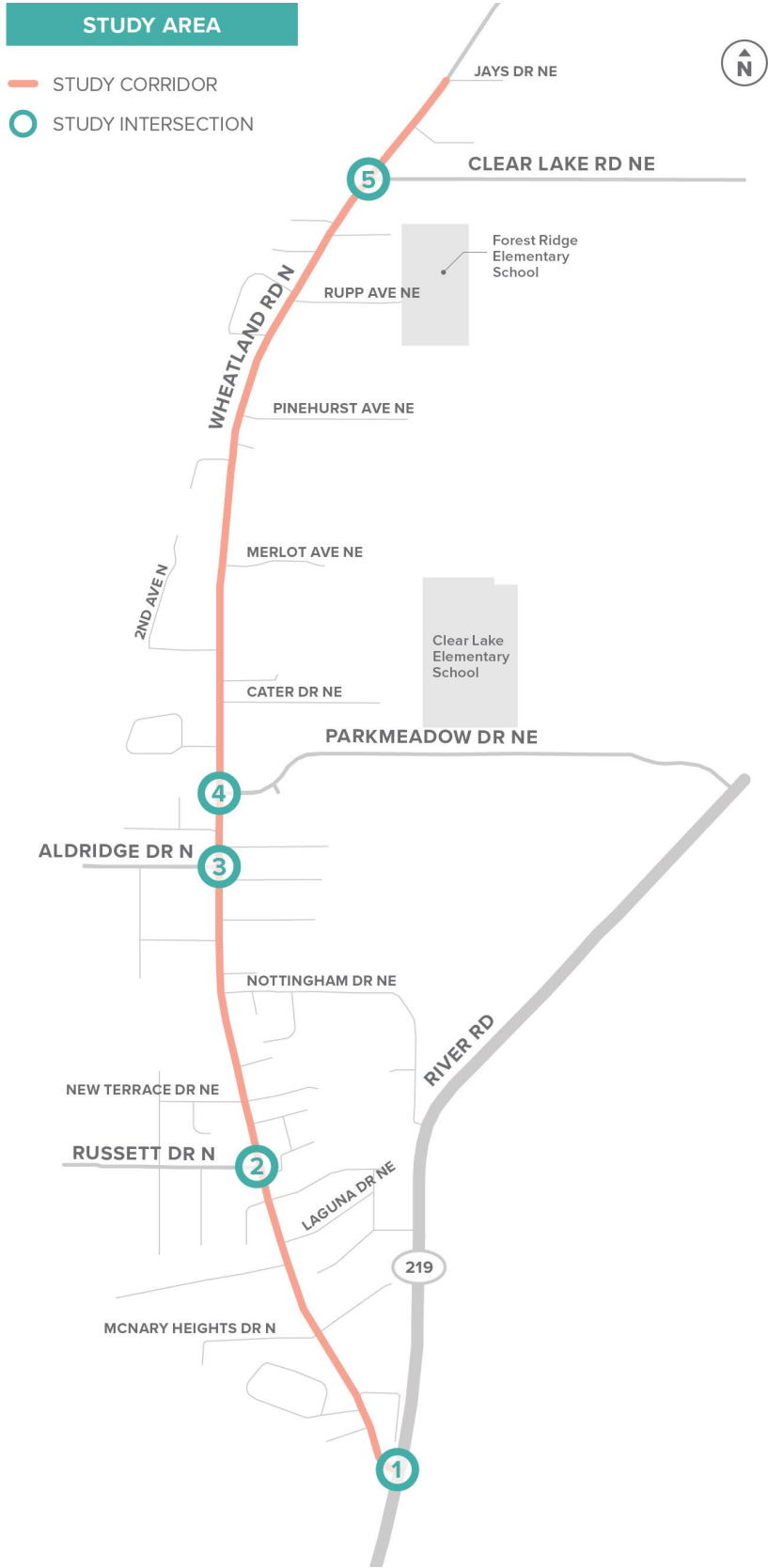
SUBJECT: Wheatland Road Corridor Plan – Existing and Future Forecast Project #20020-009
Conditions

INTRODUCTION

The primary objective of the Wheatland Road Corridor Plan project is to develop a multimodal corridor plan and conceptual street design that removes barriers for all modes of travel, considers the latest urban safety improvements for pedestrians (refuge medians, street lighting, pedestrian activated flashers), bicycles (separated multi-use paths or buffered/protected bikes lanes), and transit riders (updated facilities and waiting areas), and creates an enjoyable experience for users of all ages and abilities. The project will also include community involvement to assure the design plan is consistent with the needs of key stakeholders (including neighborhoods, schools, and businesses).

This memorandum also serves as a technical evaluation of both the existing and future forecast operational conditions of Wheatland Road corridor from River Road to Jays Drive (northern city limit). The study corridor and study intersections are shown in Figure 1 and are listed below:

- Wheatland Road/River Road
- Wheatland Road/Russett Drive
- Wheatland Road/Aldridge Drive
- Wheatland Road/Parkmeadow Drive
- Wheatland Road/Clear Lake Road



The contents of this memorandum are listed below and include sections that address existing and future conditions of the study corridor. The sections also document safety analysis.

MEMORANDUM CONTENTS

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EXISTING PEDESTRIAN AND BICYCLE CONDITIONS	3
EXISTING TRANSIT CONDITONS	7
EXISTING LIGHTING CONDITIONS.....	10
EXISTING STORMWATER AND NATURAL RESOURCE CONDITIONS	10
EXISTING MOTOR VEHICLE CONDITIONS.....	11
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EXISTING PEDESTRIAN AND BICYCLE CONDITIONS

This section contains an evaluation of the existing pedestrian and bicycle conditions along the study corridor. The following subsections discuss the existing facilities, a qualitative assessment of the facilities based on field observations, and an ADA assessment of the Wheatland Road corridor.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

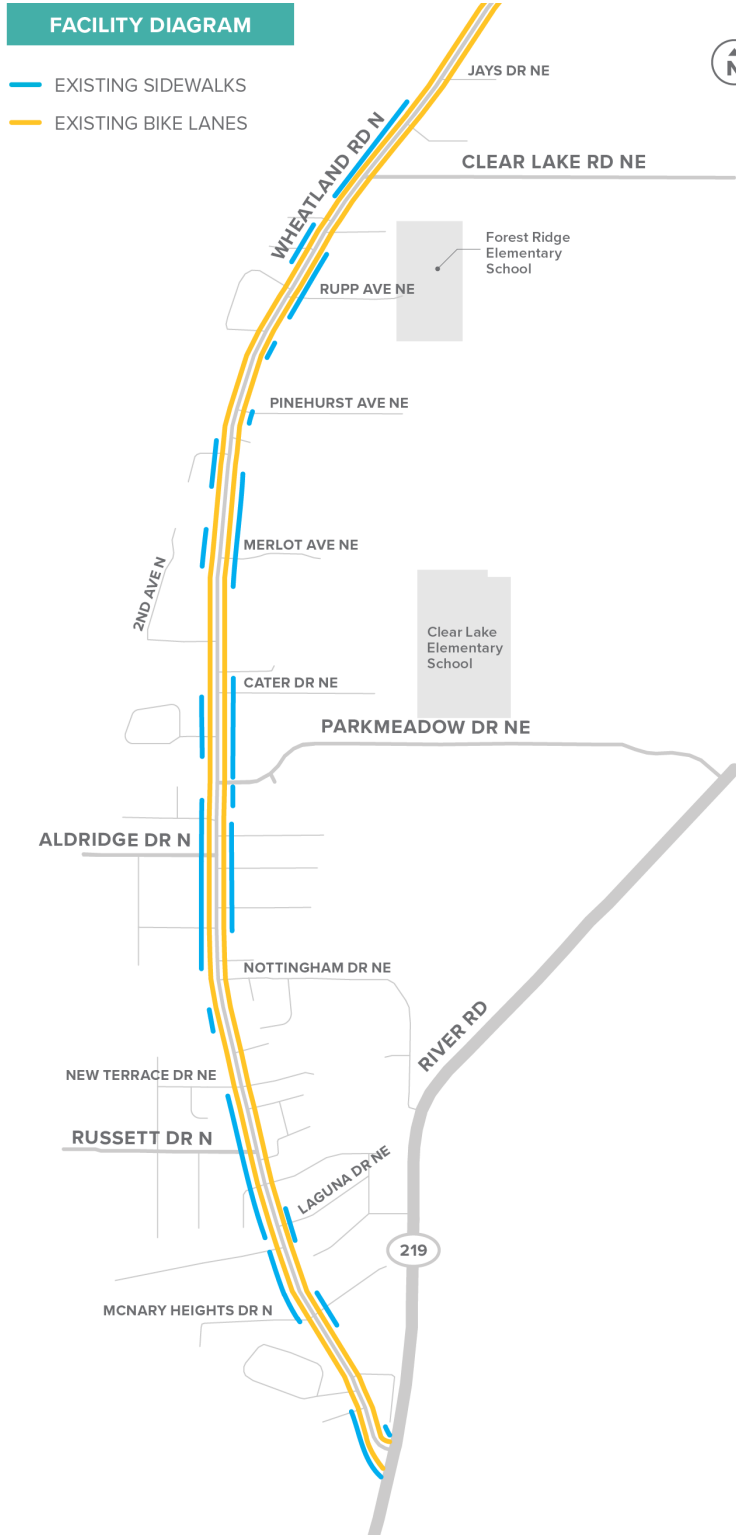
There are existing segments of paved sidewalk along Wheatland Road in multiple areas with many gaps. This provides poor pedestrian connectivity with numerous places without sidewalk on either side of the road. Figure 2 shows a typical example of pedestrians walking along the shoulder of the road.

There are existing bicycle lanes along Wheatland Road on both sides. The bike lane widths vary between 5-feet to 6-feet wide and are always directly adjacent to the vehicular travel lanes.

Refer to Figure 3 for the locations of existing pedestrian sidewalks and existing bike lanes. Existing public transit and school conditions are discussed later in the report.



FIGURE 2: PEDESTRIANS WALKING ON ROAD SHOULDER



QUALITATIVE ASSESSMENT OF FACILITIES

A qualitative assessment of the walkability and bikeability of the study intersections and whole study corridor was conducted using the Oregon Department of Transportation (ODOT) Qualitative Multimodal Assessment tool found in the ODOT Analysis Procedure Manual (APM)¹. Various aspects of walkability and bikeability at each of the study intersections and along the corridor were assigned one of the following ratings based on study area field observations and the recommended criteria.

- “Excellent”
- “Good”
- “Fair”
- “Poor”

FIGURE 3: EXISTING PEDESTRIAN AND BICYCLE FACILITIES

¹ Analysis Procedures Manual (APM), Chapter 14, Oregon Department of Transportation, Updated 10/22/2020.

Table 1 displays a summary of the qualitative grading for each study intersection and corridor segments.

TABLE 1: QUALITATIVE GRADING OF WALKABILITY AND BIKEABILITY OF WHEATLAND ROAD

LOCATION	WALKING	BIKING
<i>SEGMENTS</i>		
RIVER ROAD -> LAGUNA DRIVE	Poor	Poor
LAGUNA DRIVE -> PARKMEADOW DRIVE	Poor	Fair
PARKMEADOW DRIVE -> 2 ND AVENUE	Poor	Fair
2 ND AVENUE -> JAYS DRIVE	Poor	Fair
<i>STUDY INTERSECTIONS</i>		
RIVER ROAD	Good	Fair
RUSSETT DRIVE	Poor	Fair
ALDRIDGE DRIVE	Fair	Fair
PARKMEADOW DRIVE	Poor	Fair
CLEAR LAKE ROAD	Poor	Fair

The walkability grade of each segment is determined by, but limited to, sidewalk presence, lighting, adjacent traffic speed, and buffer presence. As a whole, this corridor lacks in sidewalk connectivity and adequate nighttime lighting which translates to the "Poor" rating. The walkability grade of each intersection is determined by, but not limited to, street crossing widths, median islands, and ramp presence. Most of the intersections were either missing ramps or sidewalk on one or more of the corners which translates to the mixed set of ratings. Marked school crossing were graded more stringently. The River Road intersection, however, was given a "Good" rating for ADA compliant curbs ramps and marked crosswalks which were just installed within the last few years.

The bikeability grade of each segment is determined by, but limited to, bike facility/shoulder presence and width, pavement condition, on-street parking, roadway grade, and speed of adjacent traffic. As a whole, this corridor has minimum six-foot bike lanes on both sides with no on-street parking or other obstructions which translates to the "Fair" rating for most of the segments. The River Road to Laguna Drive segment was given a "Poor" rating, though, as it has a decently steep hill (5.3% grade) which can be difficult for cyclists, especially right up against traffic. The bikeability grade of each intersection is determined by, but not limited to, street crossing widths and type of traffic control. All of the intersections had acceptable crossing widths with either no traffic control at the stop-controlled intersections or adequate bike lanes and detection at the signalized intersection which translates to the "Fair" rating.

Context sensitive design must be employed when evaluating this facility and proposing future enhancements. For pedestrians, system connectivity needs to be achieved by adding sidewalk and curb ramps. There are many segments of roadway without sidewalk on either side of the road which can discourage or inhibit walking for many users. For cyclists, all types of cyclists should be comfortable while riding along a bike facility. The National Association of City Transportation Officials (NACTO) published contextual guidance for designing bicycle facilities for all ages and abilities using the criteria of safety, comfortability, and equity². For a bike facility adjacent to a high-speed roadway like Wheatland Road³, a protected bike lane or separated bike facility is recommended.

ADA ASSESSMENT

An assessment of all curb ramps along the Wheatland Road corridor was conducted by the project team in December 2020. All but a few of the curb ramps existing within the corridor do not meet ADA requirements. In addition, curb ramps are missing at T-intersections where sidewalk exists opposite of the intersection. These are legal crossings as defined by Oregon Revised Statutes (ORS). Curb ramps should be added to the opposite side of T-intersections for all legal crossings, or the legal crossing should be closed. Figure 4 provides a visual representation of the curb ramps that either pass ADA compliance, fail ADA compliance, or are missing altogether.

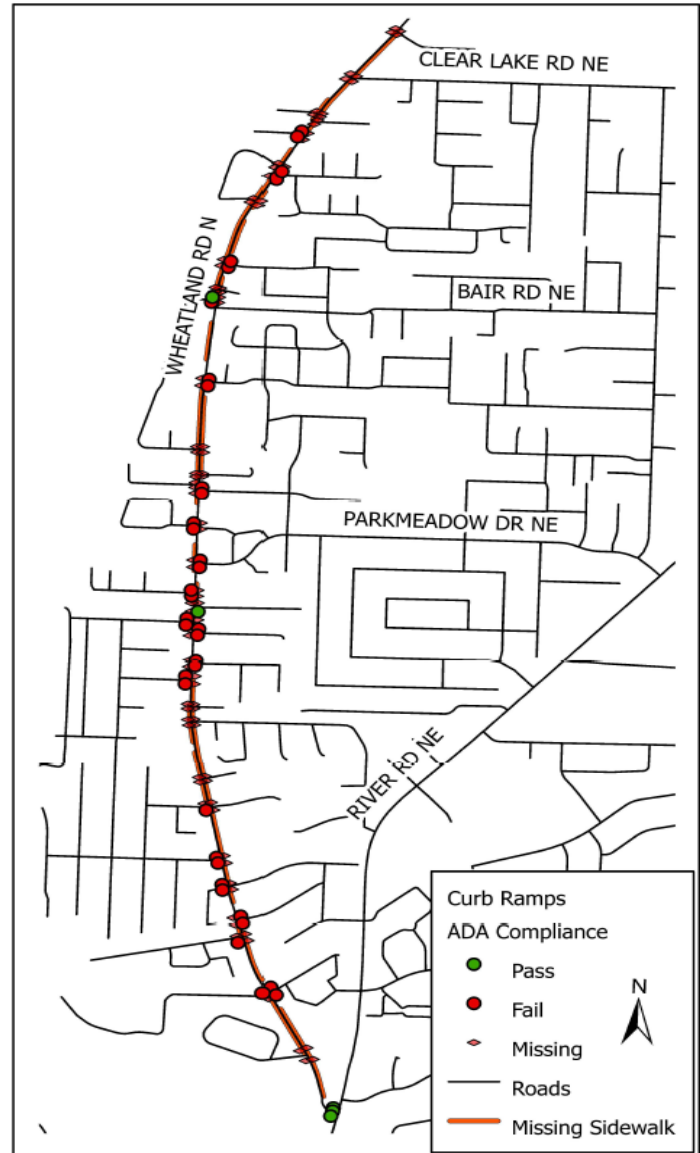


FIGURE 4: ADA RAMP COMPLIANCE

² Designing for All Ages and Abilities, National Association of City Transportation Officials, December 2017.

³ See posted and 85th percentile speeds for Wheatland in Table 4.

EXISTING TRANSIT CONDITIONS

CHERRIOTS TRANSIT

Cherriots provides public transit service in the Salem-Keizer area via one route. The route, Route 9 (Cherry/River Road), operates Monday through Saturday and provides service between the Downtown Transit Center in Salem and the intersection of Parkmeadow Drive and Wheatland Road. It only services the corridor south of Parkmeadow Drive and it is a southbound-only route along Wheatland Road. The bus has 30-minute headways on weekdays and one-hour headways on Saturdays. Figure 5 shows the route and bus stop locations.

Within the vicinity of the study corridor, there are five bus stops for Route 9. A wide shoulder is present at the McNary Heights bus stop; however, it is not intended for use as a bus pullout. None of the bus stops provide seating or a covered waiting area.

Many pedestrians utilize the transit bus stops along Wheatland Road and are often waiting for buses during the morning peak period.

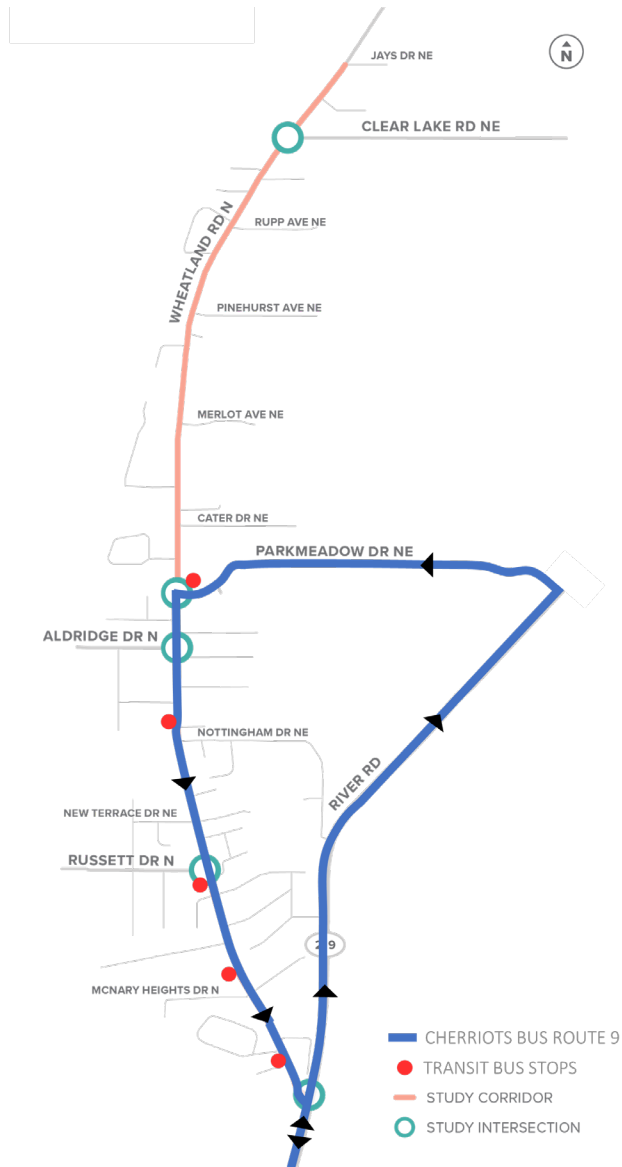


FIGURE 5: CHERRIOTS BUS ROUTE AND STOPS

NEARBY SALEM-KEIZER SCHOOLS

There are two elementary schools near the study corridor: Clear Lake Elementary School and Forest Ridge Elementary School. Many students walk from the neighborhoods around Wheatland Road to these schools. However, most students that live on the west side of Wheatland Road that attend Forest Ridge are provided school bus service. In addition to the elementary students, middle school and high school students walk the corridor to reach their respective school bus stops. Figure 7 shows the school locations, school speed zones, and school bus stops.

There are also two 20 mph school speed zones located along the corridor. The school zone for Clear Lake Elementary School is from Farmland Lane to Cater Drive and the school zone for Forest Ridge Elementary is from Marks Drive to approximately 225 feet north of Clear Lake Road intersection as well as along Clear Lake Road.

There are marked school crosswalks at Parkmeadow Drive (north leg, with a crossing guard) and at Clear Lake Road (south leg and east leg). While the crosswalks are marked, each intersection is missing curb ramps with the marked crosswalks. Figure 6 shows the Parkmeadow Drive marked school crosswalk.

School bus stop locations on Wheatland Road are shown in Table 2. There are 14 individual bus stop locations along Wheatland Road for the four schools listed.

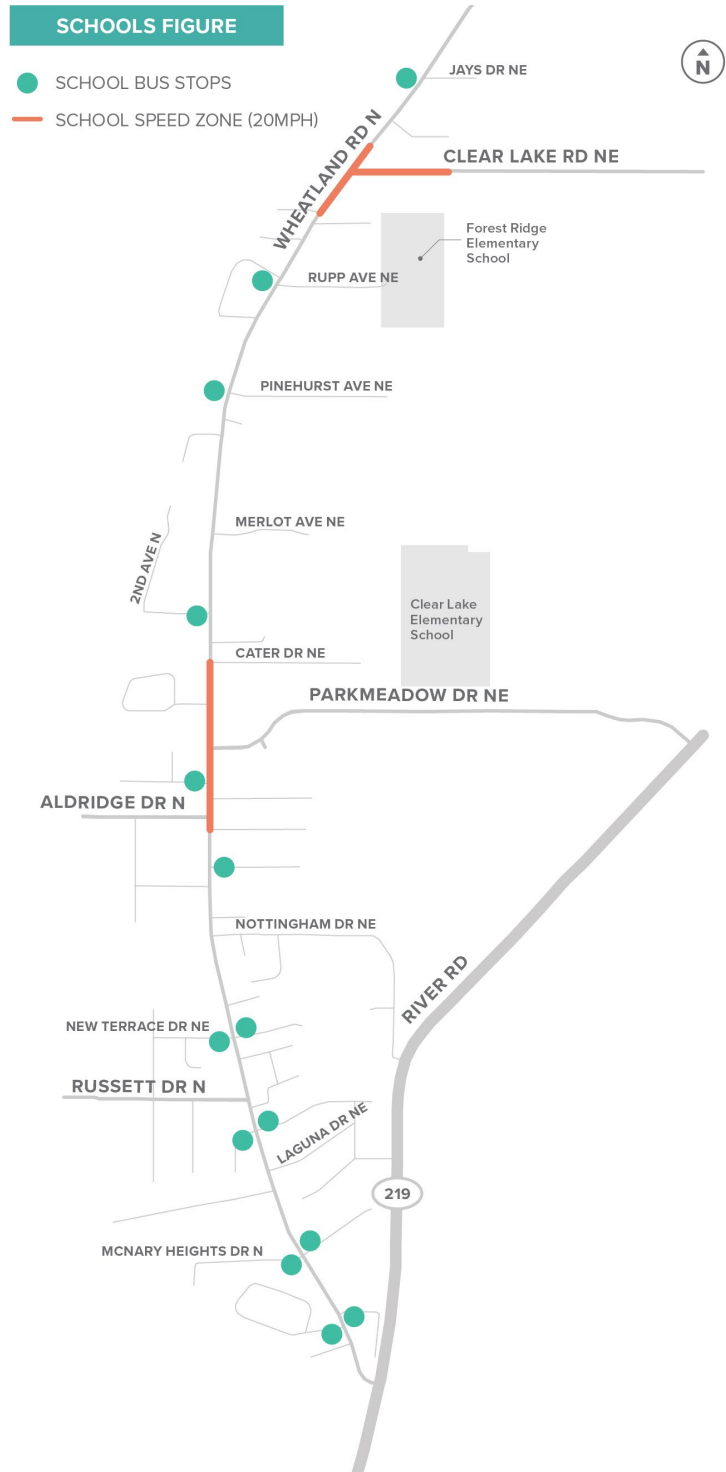


FIGURE 6: SCHOOL ZONES AND SCHOOL BUS STOPS

TABLE 2: SCHOOL BUS STOP LOCATIONS

CLEAR LAKE ELEMENTARY AND FOREST RIDGE ELEMENTARY	WHITAKER MIDDLE SCHOOL AND MCNARY HIGH SCHOOL
Courtside Manor Apartments (northbound)	Jays Drive (southbound)
Foothill Court (northbound)	Rupp Avenue (southbound)
Delta Drive (northbound)	Pinehurst Avenue (southbound)
New Terrace Court (northbound)	Otter Way (southbound)
Springridge Drive (northbound)	Hazelbrook Drive (southbound)
Otter Way (southbound)	New Terrace Drive (southbound)
Delta Court (southbound)	Delta Court (southbound)
McNary Heights Drive (southbound)	McNary Heights Drive (southbound)
	Mistletoe Loop (southbound)

Currently, there is a lack of street lighting, sidewalks, and safe pedestrian crossings of Wheatland Road for students walking to school, crossing Wheatland Road, traveling to a school bus stop, or waiting at a school bus stop. During the winter, students waiting for school buses in the morning hours are often waiting in the dark and must walk and cross along stretches of Wheatland Road without sidewalks or lighting as shown in Figure 9.



FIGURE 7: PARKMEADOW DRIVE MARKED SCHOOL CROSSWALK

EXISTING LIGHTING CONDITIONS

Street lighting observations were conducted along the Wheatland Road project area during the nighttime conditions on November 30, 2020. There is some existing street lighting along most of Wheatland Road corridor. Observed light levels indicate that additional lighting along the study corridor is needed. Existing lighting along the corridor is mainly located on utility poles and is not uniform, creating contrast between light and dark sections and making it difficult to identify pedestrians, bikes, and motor vehicles on or crossing the street. Visibility is especially challenging at several of the school bus stops as shown in Figure 9. Supplemental lighting along the corridor would be needed to meet current street lighting guidelines (average light levels and uniformity).



FIGURE 8: DARK CONDITIONS AT A SCHOOL BUS STOP

EXISTING STORMWATER AND NATURAL RESOURCE CONDITIONS

STORMWATER CONDITIONS

Most of the corridor has some existing stormwater infrastructure and piping in place that is part of the City's MS4 system. Areas of exception include between Mistle Toe Loop and River Road; between New Terrace and Malory Lane; and from Jacobsen Street to Merlot Avenue. Additional study and analysis will need to be completed to determine the available capacity of this system.

There is minimal slope along Wheatland Road north of Laguna Drive. South of Laguna Drive, Wheatland Road slopes south toward River Road with a low point around McNary Heights Drive. The City of Keizer prefers the use of Underground Injection Controls (UICs) to manage stormwater runoff which should be the preferred method of stormwater discharge for this project.

The project corridor has limited right-of-way and the roadside areas are almost completely developed. However, there are some limited opportunities for stormwater facilities to assist with stormwater management and infiltration. These include installing perforated UIC storm drain piping within the roadway, constructing narrow above ground linear features such as swales or rain garden planters along the western side of the corridor under existing transmission power lines or where there is sufficient right-of-way is available on the eastern side, between New Terrace Court and Nottingham Drive, for example. Other options could include purchasing private property at strategic undeveloped locations such as the open fields adjacent to Keizer Christian Church or at the southwest corner of the intersection of Wheatland Road and McNary Heights Drive.

Curb only exists on parts of Wheatland Road, potentially draining stormwater runoff from public infrastructure onto adjacent private properties. For example, on the west side of Wheatland Road, between Mistletoe Loop and McNary Heights Drive, the adjacent properties are below the road grade and no curb or sidewalk exists to direct stormwater runoff away from those properties. Heavy storms that do not fully infiltrate immediately adjacent to the road may runoff onto private property. Installing curb and sidewalk on both sides of the roadway should improve stormwater runoff conditions along the corridor.

NATURAL RESOURCE IMPACTS

A desktop review of the project corridor was completed to identify potential natural resources features that may be impacted by the project. Based on the review of available information, no impacts to wetlands or waters of the state are anticipated for this project. Data was reviewed on the Oregon Rapid Wetland Assessment Protocol and Stream Function Assessment Method online mapping. No mapped wetlands or mapped hydric soils are within the project boundaries.

There are several areas along the east side of Wheatland Road with mature trees that may be impacted when installing new sidewalk, separating existing curb tight sidewalk, or widening the paved surfacing. City of Keizer defines a significant tree as anything over 12-inch diameter at breast height. In many cases, meandering sidewalk would not be sufficient to avoid impacts to the critical root zone of significant trees with a widened corridor.

On the east side of the corridor, significant trees are located at the following general locations: between entrances of Courtside Manor opposite of Mistletoe Loop; near the embankment slope south of Laguna Drive; 2 large oaks north of New Terrace Court; immediately north of Farmland; immediately north of Park Meadow. On the west side of the corridor only one large oak was identified north of Russett.

EXISTING MOTOR VEHICLE CONDITIONS

Existing motor vehicle conditions were evaluated for the Wheatland Road corridor within the study area and included various inventories, observations, and analysis.

PAVEMENT CONDITION

Wheatland Road is a two-lane arterial corridor with a typical width of 32 feet. According to City provided data, the southern section beginning at River Road and ending at Bair Road, approximately 6,900-ft, has a Pavement Condition Index (PCI) of 85. This indicates that the pavement is in very good condition and is not in need of significant preservation efforts beyond crack sealing. The section beginning at Bair Road and ending 100-ft north of Jays Drive, approximately 3,000-ft, has a PCI of 70. A PCI of 70 indicates that the pavement is in good condition but is at a critical point for preventative maintenance. Delaying preventative maintenance below a PCI of approximately 65-70 will lead to significantly higher corrective maintenance, rehabilitation, or reconstruction. This is the appropriate time in the pavement's life for pavement

preservation treatment. A minor overlay or grind and inlay may be appropriate to extend the pavement life.

ROADWAY NETWORK

The transportation characteristics of the key study area roadways and key cross streets are shown in Table 3 and include functional classification, number of travel lanes, posted speeds, and the presence of sidewalks and bike lanes. All of the study roadways are under the City of Keizer’s jurisdiction. The functional classification is a key roadway characteristic because it specifies the purpose of the facility⁴ and is a determining factor of applicable cross-section, access spacing, and intersection performance standards.

TABLE 3: EXISTING STUDY AREA ROADWAY CHARACTERISTICS

ROADWAY	FUNCTIONAL CLASSIFICATION	TRAVEL LANES	POSTED SPEED	SIDEWALK	BIKE LANES
WHEATLAND ROAD	Minor Arterial	2	40 mph	Partial ^a	Both Sides
RIVER ROAD	Major Arterial	3-5	40 mph	Both Sides	None
RUSSETT DRIVE	Local Street	2	Not Posted	Both Sides	None
ALDRIDGE DRIVE	Local Street	2	Not Posted	Both Sides	None
PARKMEADOW DRIVE	Collector	2	25 mph	Both Sides	None
CLEAR LAKE ROAD	Collector	2	40 mph	None	None

^a Refer to the Figure 3 to see the location of existing sidewalks and bicycle lanes on Wheatland Road.

EXISTING VEHICULAR VOLUME, SPEED, AND CLASSIFICATION

Traffic data was collected using 24-hour tube counts⁵ at two locations within the project study area. The locations of these tube counts are shown in Table 4. This data includes directional average daily vehicular volumes, heavy vehicle percentages, and 85th percentile speeds.

At the time that the traffic counts were collected, traffic volumes were lighter than normal due to the COVID-19 pandemic. However, historical traffic count data collected in March 2020, prior to the COVID-19 closure of schools and businesses, were available at the intersections of River Road and

⁴ The primary purpose of an arterial is to provide mobility, whereas at the opposite end of the spectrum, a local road is primarily concerned with site access. Collector roadways provide a transition between arterials and local roads.

⁵ Traffic Data was collected on Tuesday, September 29, 2020 by All Traffic Data.

Clear Lake Road for the PM peak hour. These counts were used to determine the change (reduction) in traffic volumes during the peak periods of the COVID-19 pandemic so that the traffic counts collected in September of 2020 could be scaled appropriately and would therefore represent typical traffic volume levels. It was determined that a factor of 1.15 be applied (15% increase) to the September 2020 traffic counts to represent pre-COVID-19 conditions.

As shown in Table 4, Wheatland Road experiences daily traffic volumes between 5,300 and 8,600 vehicles (adjusted for impacts due to COVID-19). The 85th percentile travel speeds range from 3 mph to 5 mph above the posted speed.

TABLE 4: WHEATLAND ROAD VOLUMES, HEAVY VEHICLES, AND SPEEDS

DATA	LOCATION ALONG WHEATLAND ROAD	
	NORTH OF LAGUNA DR	SOUTH OF CATER DR
AVERAGE DAILY TRAFFIC		
NORTHBOUND	4,200	2,600
SOUTHBOUND	4,400	2,700
TOTAL	8,600	5,300
HEAVY VEHICLE PERCENTAGES		
NORTHBOUND	1.4%	2.0%
SOUTHBOUND	2.1%	1.7%
85TH PERCENTILE SPEEDS (POSTED SPEED = 40 MPH)		
NORTHBOUND	43 MPH	45 MPH
SOUTHBOUND	45 MPH	44 MPH

EXISTING 2020 TURNING MOVEMENT COUNTS

Intersection turn movement volumes were collected at the five study intersections along Wheatland Road in September 2020.⁶ The intersection volumes were collected for the AM (7 am – 9am) and PM (4 pm – 6 pm) peak periods. The peak hours for each period (AM and PM) at each study intersection were calculated and will be analyzed as part of the intersection performance analysis. The five study intersections and their corresponding traffic control are listed below:

- Wheatland Road/River Road (Signalized)
- Wheatland Road/Russett Drive (Unsignalized)

⁶ Traffic count data was collected on Tuesday, September 29, 2020 by All Traffic Data.

- Wheatland Road/Aldridge Drive (Unsignalized)
- Wheatland Road/Parkmeadow Drive (Unsignalized)
- Wheatland Road/Clear Lake Road (Unsignalized)

The adjusted existing 2020 intersection volumes are shown in Figure 9 on the following page. The detailed, two-hour traffic counts collected in March 2020 and September 2020 can be found in the appendix.

INTERSECTION OPERATING STANDARDS

Agency mobility standards often require intersections to meet level of service (LOS) or volume-to-capacity (V/C) intersection operation thresholds.

- The intersection LOS is similar to a “report card” rating based upon average vehicle delay. Level of service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of service D and E are progressively worse operating conditions. Level of service F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.
- The volume-to-capacity (v/c) ratio represents the level of saturation of the intersection or individual movement. It is determined by dividing the peak hour traffic volume by the maximum hourly capacity of an intersection or turn movement. When the V/C ratio approaches 0.95, operations become unstable and small disruptions can cause the traffic flow to break down, resulting in the formation of excessive queues.

All of the study intersections are under City of Keizer jurisdiction and are required to meet the City’s operating standards. Per the City’s Transportation System Plan⁷, intersections of two arterial roadways must have a v/c ratio of 0.95 or less to be operating acceptably. This includes the Wheatland Road/River Road intersection. For the remaining unsignalized study intersections, only the LOS is used for determining intersection operation. LOS “E” (representing no more than 50 seconds of average minor street stopped delay) is the minimum acceptable level.

⁷ City of Keizer Transportation System Plan, Part 1 of 2, Revised June 2014.

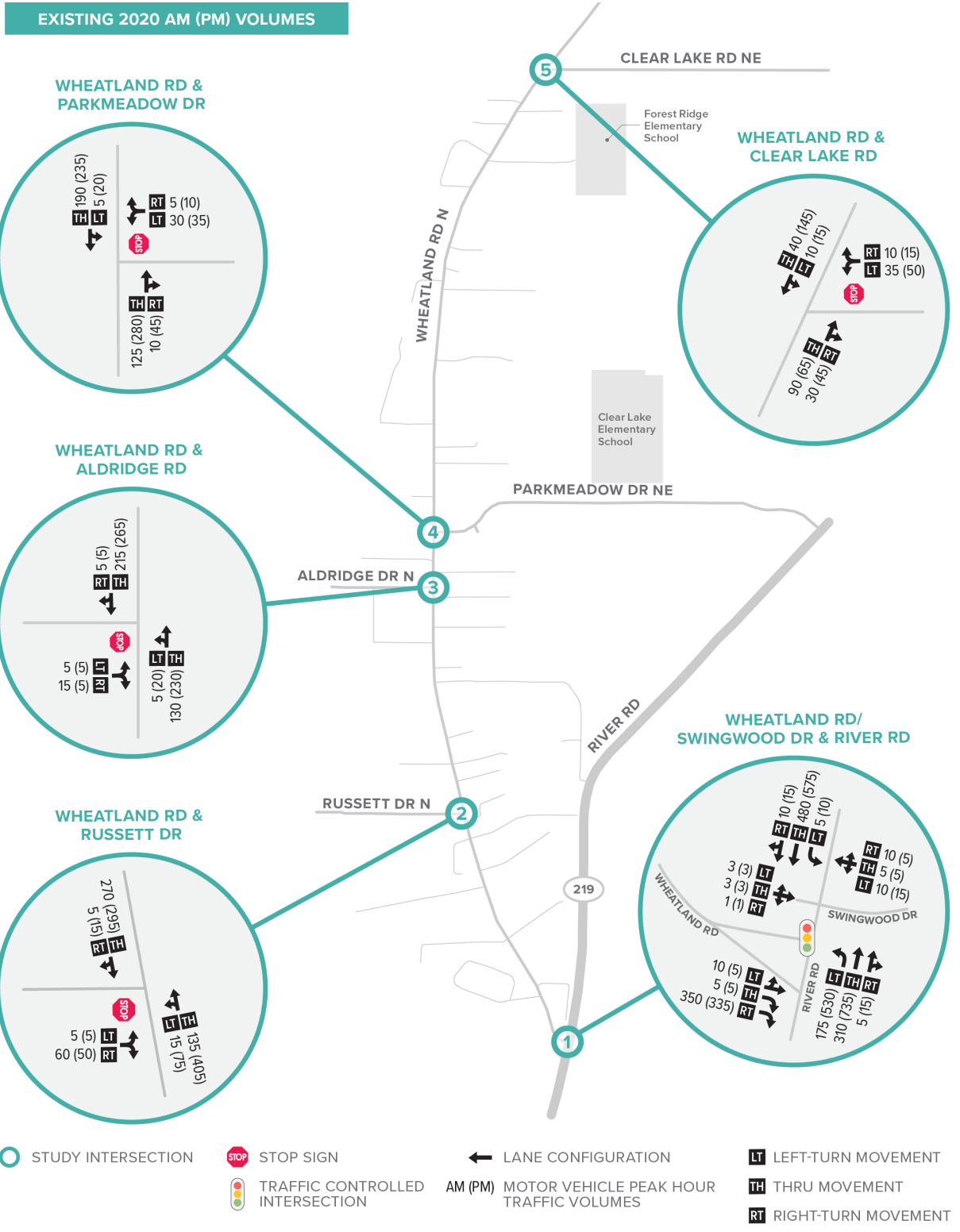


FIGURE 9: EXISITING (2020) TRAFFIC VOLUMES

EXISTING 2020 INTERSECTION PERFORMANCE

The existing performance of the study intersections was evaluated using Synchro™ software, which employs methodology from the 6th Edition of the Highway Capacity Manual⁸ for both unsignalized and signalized intersections.

The intersection operation performance standards of level of service (LOS), delay, and volume-to-capacity (V/C) ratios were calculated for the AM and PM peak hours and are reported in Table 5. As shown, all intersections currently meet the City of Keizer's mobility standards.

TABLE 5: EXISTING (2020) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	AM PEAK HOUR			PM PEAK HOUR		
		V/C RATIO	DELAY	LOS	V/C RATIO	DELAY	LOS
SIGNALIZED							
WHEATLAND RD/ RIVER RD	$v/c \leq 0.95$	0.33	5.9	A	0.33	11.9	B
UNSIGNALIZED							
WHEATLAND RD/ RUSSETT DR	LOS E	0.10	10.4	A/B	0.09	11.4	A/B
WHEATLAND RD/ ALDRIDGE DR	LOS E	0.03	10.1	A/B	0.02	12.0	A/B
WHEATLAND RD/ PARKMEADOW DR	LOS E	0.06	10.9	A/B	0.11	14.0	A/B
WHEATLAND RD/ CLEAR LAKE RD	LOS E	0.07	9.9	A/A	0.10	10.7	A/B

SIGNALIZED INTERSECTION:

Delay = Average Intersection Delay (sec.)
v/c = Average Intersection Volume-to-Capacity Ratio
LOS = Average Intersection Level of Service

TWO-WAY STOP CONTROLLED INTERSECTION:

Delay = Critical Movement Approach Delay (sec.)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Level of Service (Major/Minor Road)

⁸ Highway Capacity Manual, 6th Edition, Highway Transportation Research Board, 2017.

SAFETY ANALYSIS

A brief discussion of the crash analysis that was performed for the study area is presented in the sections below. Crash data was obtained from the ODOT Crash Analysis and Reporting Unit for the five most recent years of published data (2014-2018). Figure 10 shows the location of all crashes along Wheatland Road during this period.

CRASH STATISTICS

Between 2014 and 2018, 54 crashes were recorded along the project corridor (from River Road to Jays Drive). There were 24 Rear-End crashes (44%), 11 Turning Movement crashes (20%), and 7 Fixed Objects crashes (13%). Among the fixed object crashes, the fixed objects included mailboxes, utility poles, ditches, vegetation, signs, and curbs. The number of crashes at each study intersection is recorded in Table 6.

There were no fatal crashes in the study area. There was, however, one serious injury (Injury A) crash that occurred at the intersection of Wheatland Road/New Terrace Court. The crash occurred in 2017 during clear, dry conditions and resulted in a rear-end collision.

There were three pedestrian crashes and one bicycle crash recorded on the study corridor. The location of the pedestrian and bicycle crashes are shown in Figure 10. Three of the crashes resulted in moderate injury (Injury B) and one resulted in minor injury (Injury C). All four occurred during daylight under clear and dry conditions. The pedestrian crash at Wheatland Road/River Road was caused by a motor vehicle driver's disregard for the traffic signal.

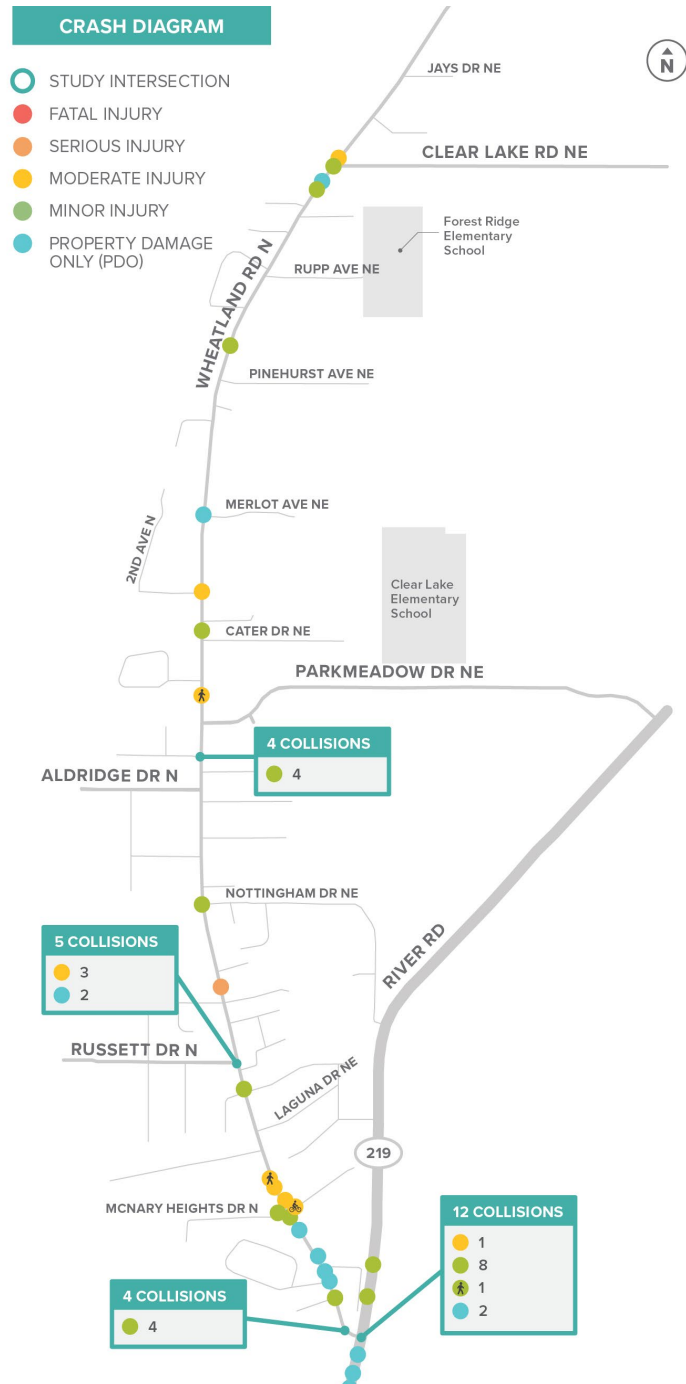


FIGURE 10: CRASH MAP (2014 – 2018)

CRITICAL CRASH RATE CALCULATIONS

ODOT guidance was followed to evaluate the crash rates at the five study intersections. Table 6 shows the results of the evaluation. The intersection types were determined by their respective geometries and traffic control. Exhibit 4-1 in the Analysis Procedures Manual⁹ provides 90th percentile critical crash rates for similar intersection types in Oregon. These rates were compared to the calculated observed crash rates at the study intersections.

TABLE 6: CRITICAL CRASH RATE RESULTS

INTERSECTION	TYPE ^a	NUMBER OF CRASHES	90th %ILE CRASH RATE	AVERAGE DAILY TRAFFIC	CALCULATED CRASH RATE
<i>SEGMENT</i>					
WHEATLAND ROAD (RIVER RD TO JAYS DR)	-	54	2.84 ^b	7,000	2.22
<i>INTERSECTON</i>					
WHEATLAND RD/ RIVER RD	URBAN 4SG	21	0.860	22,500	0.511
WHEATLAND RD/ RUSSETT DR	URBAN 3ST	5	0.293	8,450	0.324
WHEATLAND RD/ ALDRIDGE DR	URBAN 3ST	0	0.293	6,200	0.000
WHEATLAND RD/ PARKMEADOW DR	URBAN 3ST	0	0.293	6,250	0.000
WHEATLAND RD/ CLEAR LAKE ROAD	URBAN 3ST	2	0.293	3,350	0.327

^a 4SG = Four-Leg Signalized, 3ST = Three-Leg Minor Stop-Controlled

^b The 90th percentile rate is the average of the crash rates between 2014 – 2018 for Urban Minor Arterials from ODOT's State Highway Crash Rate Table II

Bold/Highlighted = Calculated Rate exceeds Critical Rate

As shown, two intersections, Russett Drive and Clear Lake Road had calculated rates higher than the 90th percentile critical rate determined by ODOT. All five of the crashes that occurred at the Russett Drive intersection were rear-end crashes where the northbound left turning vehicle was hit by through vehicles on Wheatland Road while waiting to turn left onto Russett Drive. This is likely due to the high northbound left turn volume at Russett Drive and the lack of a left turn lane at this location. The installation of a northbound left turn lane should be considered to eliminate conflicts between northbound left turning and southbound through vehicles. Of the two crashes that the Clear Lake Road intersection, one was a Fixed Object crash and the other was a Parking Maneuver crash.

⁹ Analysis Procedures Manual, Oregon Department of Transportation, Updated 7/7/2020.

MOTOR VEHICLE FIELD OBSERVATIONS

The following observations have been made of the motor vehicle operations on the Wheatland Road corridor.

- The northbound left turn at the Wheatland Road/River Road intersection will often back up into the through lanes of traffic on River Road near Manzanita Street during the PM peak period. If the queue is long, vehicles will often continue north through the intersection and will use neighborhood streets, such as Nottingham Drive and Parkmeadow Drive.
- The driveway to the B&S Market just north of the Wheatland Road/River Road intersection is signalized, however, there are no right turns on red permitted. This is often ignored and vehicles conflict with protected northbound left turning vehicles from River Road.
- There have been many rear-end vehicle conflicts between vehicles waiting to turn left onto Russett Drive and northbound through vehicles on Wheatland Road. There is a hill just before Russett Drive that blocks the view of approaching vehicles and the roadway has a posted speed of 40 mph.

PLANNED IMPROVEMENTS

The City of Keizer Transportation System Plan (TSP) provides a list of projects that the City desires to construct to improve motor vehicle operations and multimodal safety.

- R2- Move the River Road/Manzanita Street intersection approximately 250 feet to the south. Realign and reconstruct Manzanita Street and McNary Estates Drive approaches to River Road. Construct separate westbound through and right-turn lanes. Medium Priority.
- R3 – At River Road/Wheatland Road intersection, construct dual northbound left-turn lanes, change north and south left-turn phases to a protected left-turn phase, and extend the length of second southbound through lane. Medium Priority.

Additionally, there is a project currently in the design phase for the installation of new optical fiber cable to connect from Shangri-La Avenue (City of Salem) to Wheatland Road (City of Keizer). This will be used to link traffic signals along the River Road to improve traffic flow. This project is currently being designed and will be constructed in 2021.

FUTURE MOTOR VEHICLE CONDITIONS

This section contains an evaluation of the future motor vehicle conditions along the study corridor. The following subsections discuss the future forecast volume development, forecasted 2042 volumes, and future 2042 intersection performance.

SALEM-KEIZER AREA TRANSPORTATION STUDY (SKATS) TRAVEL DEMAND MODEL

Future motor vehicle conditions for 2042 AM and PM peak hour intersection performance were evaluated for the study intersections. The background growth for the turning movement volumes was calculated based on traffic growth as modeled in the Salem Keizer Transportation Study (SKATS) travel demand model.¹⁰ A rate of 1% per year growth rate was calculated based on the 2043 and 2017 models on Wheatland Road and was applied to the study intersection volumes to forecast 2042 AM and PM peak hour volumes.

FUTURE 2042 TURNING MOVEMENT COUNTS

The annual growth rate of 1% was applied to all the intersection turning movement counts at the study intersections. The traffic volumes are shown in Figure 11. The volumes shown include both the AM and PM peak hour.

¹⁰ Salem-Keizer Transportation Study (SKATS) travel demand models 2043 and 2017 were used.

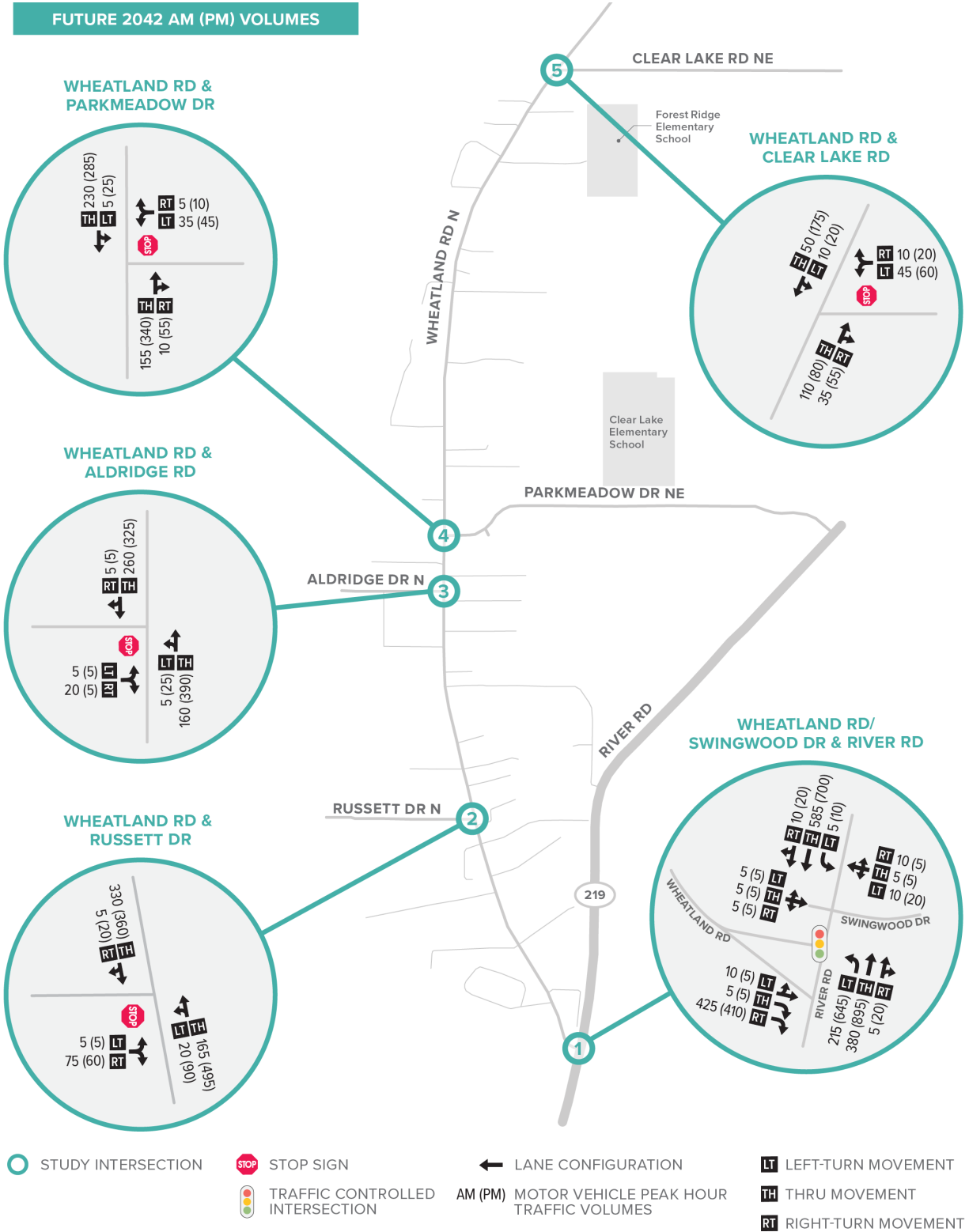


FIGURE 11: FUTURE FORECAST (2042) TRAFFIC VOLUMES

FUTURE 2042 INTERSECTION PERFORMANCE

The future performance of the study intersections was evaluated using Synchro™ software, which employs methodology from the 6th Edition of the Highway Capacity Manual¹¹ for unsignalized intersections and signalized intersections.

The intersection operation performance standards of level of service (LOS), delay, and volume-to-capacity (V/C) ratios, were calculated for the AM and PM peak hours and are reported in Table 7 below. As shown, all intersections currently meet the City of Keizer's mobility standards.

TABLE 7: FUTURE (2042) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	AM PEAK HOUR			PM PEAK HOUR		
		V/C RATIO	DELAY	LOS	V/C RATIO	DELAY	LOS
SIGNALIZED							
WHEATLAND RD/ RIVER RD	v/c ≤ 0.95	0.40	6.1	A	0.44	27.0	C
UNSIGNALIZED							
WHEATLAND RD/ RUSSETT DR	LOS E	0.13	11.1	A/B	0.12	12.4	A/B
WHEATLAND RD/ ALDRIDGE DR	LOS E	0.04	10.4	A/B	0.02	13.3	A/B
WHEATLAND RD/ PARKMEADOW DR	LOS E	0.07	11.7	A/B	0.16	16.4	A/C
WHEATLAND RD/ CLEAR LAKE RD	LOS E	0.08	10.2	A/B	0.14	11.4	A/B

SIGNALIZED INTERSECTION:

Delay = Average Intersection Delay (sec.)
v/c = Average Intersection Volume-to-Capacity Ratio
LOS = Average Intersection Level of Service

TWO-WAY STOP CONTROLLED INTERSECTION:

Delay = Critical Movement Approach Delay (sec.)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Level of Service (Major/Minor Road)

LEFT-TURN LANE CRITERIA EVALUATION

The inclusion of a dedicated left turn pocket was investigated at each of the unsignalized study intersections for the major approach per the specific procedure described in the ODOT Analysis Procedures Manual (APM)¹². Primarily, a left turn lane should be installed if any of the following three criteria are met: Vehicular Volume, Crash Experience, or Special Cases. No Special Cases

¹¹ Highway Capacity Manual, 6th Edition, Highway Transportation Research Board, 2017.

¹² Chapter 12, Analysis Procedures Manual, Oregon Department of Transportation, January 2020.

apply to these left turn lane evaluations for the corridor. It should be noted that the criteria only address left turns on the major approach and that meeting one or more of the criteria only indicates that a turn lane would be appropriate; it does not require that a turn lane be installed. For this analysis, a northbound left at Russett Drive, northbound left at Aldridge Drive, southbound left at Parkmeadow Drive, and southbound left at Clear Lake Road were evaluated.

The Vehicular Volume criteria is evaluated using major road volumes and Exhibit 12-1 from the APM¹³ to determine if the volumes pass a recommended threshold of left turns versus general vehicular volume. Both AM and PM volumes for Existing and Future conditions were tested to determine current and future outcomes. The left turns at Russett Drive, Aldridge Drive, and Parkmeadow Drive all met the recommended threshold for Existing and Future Condition volumes, but the northbound left at Russett Drive significantly exceeded the threshold for both conditions. Conversely, the southbound left at Clear Lake Road did not meet the threshold for any of the conditions.

The Crash Experience criteria is evaluated by investigating prior crash history and the presence of crash remedy trials, and then examining how adding a dedicated left turn could alleviate certain crash types. The primary crash type that adding a dedicated lane turn alleviates is rear-ends. At Russett Drive, there were five rear-end crashes from vehicles trying to make a northbound left as shown in the safety analysis. While there are technically no known crash remedy trials at this location, these crashes could theoretically be minimized by adding a northbound left turn at this location. Neither Aldridge Drive, Parkmeadow Drive, nor Clear Lake Road had any rear-end crashes.

TABLE 8: LEFT-TURN LANE CRITERIA EVALUATION RESULTS

INTERSECTION	CRITERIA MET?			IS A LEFT TURN POCKET RECOMMENDED?
	VEHICULAR VOLUME	CRASH EXPERIENCE	SPECIAL CASES	
NORTHBOUND LEFT @ RUSSETT DRIVE	Yes ¹	Yes ²	No	Yes
NORTHBOUND LEFT @ ALDRIDGE DRIVE	Yes	No	No	No
SOUTHBOUND LEFT @ PARKMEADOW DRIVE	Yes	No	No	No
SOUTHBOUND LEFT @ CLEAR LAKE DRIVE	No	No	No	No

¹ The Vehicular Volume criteria significantly exceeded the threshold.

² No known crash remedy trials were performed at this intersection.

¹³ Chapter 12, Analysis Procedures Manual, Oregon Department of Transportation, January 2020.

Based on the findings summarized in Table 8, a northbound left turn pocket is recommended at Russett Drive only. It will potentially minimize rear-end crashes and provide queuing space for the high volume of turning vehicles (75 vehicles at PM peak hour). In an effort to conserve roadway cross-sectional width, dedicated left turn lanes at the other intersections are not recommended as they do not introduce significant operational or safety benefits to the corridor.

SUMMARY

The Wheatland Road study corridor is an approximately two-mile segment with varying levels of vehicular, pedestrian, cyclist, and transit usage. In general, the corridor works well for vehicles but has deficiencies for pedestrians, cyclists, and safe routes to schools. The study results are itemized into effective and deficient findings. From these results, the majority of the improvements for the corridor center around multi-modal transportation needs for pedestrians, bicyclists, school safety, and transit facilities.

Effective Findings

- The pavement is in either good or very good condition but could use some preventative maintenance.
- All study intersections met City of Keizer standards for both the Existing 2020 and Future 2042 traffic volume levels.
- The Wheatland Road corridor crash rate was below the critical segment crash rate, with three of the intersections also below the critical intersection crash rate.
- Bicycle lanes are present on both sides of the entire corridor.

Deficient Findings

- There is a lack of sidewalks, pedestrian connectivity, and enhanced pedestrian crossings of Wheatland Road. This is true for both the general pedestrians and school children that lack the necessary sidewalk to walk to and from school-related destinations.
- The majority of curb ramps along the corridor are either missing or not ADA compliant.
- While bicycle lanes do exist, they are not buffered, protected, or separated from vehicular traffic.
- There is inadequate street lighting throughout the corridor.
- No public transit bus stops have amenities or enhanced waiting areas.
- Two intersections had crash rates higher than the critical intersection crash rates.
- It is recommended that at Russett Drive, a northbound left turn lane be added to help prevent rear-ends (the primary crash type) and provide queuing space.

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APPENDIX A: TRAFFIC COUNT DATA



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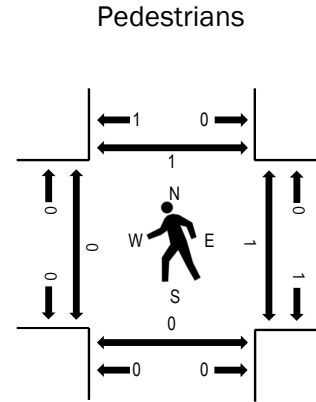
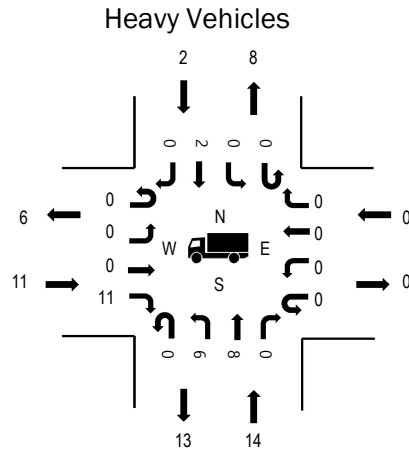
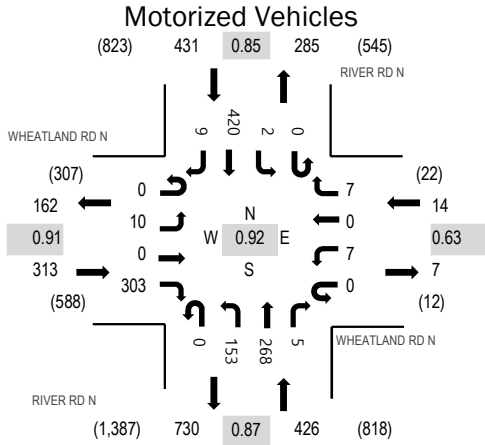
Location: 1 RIVER RD N & WHEATLAND RD N AM

Date: Tuesday, September 29, 2020

Peak Hour: 07:25 AM - 08:25 AM

Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.5%	0.91
WB	0.0%	0.63
NB	3.3%	0.87
SB	0.5%	0.85
All	2.3%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	WHEATLAND RD N Eastbound				WHEATLAND RD N Westbound				RIVER RD N Northbound				RIVER RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	29	0	0	0	0	0	10	22	0	0	0	33	0	94	1,142
7:05 AM	0	0	0	26	0	0	0	0	0	8	15	0	0	0	23	0	72	1,161
7:10 AM	0	1	1	30	0	0	0	1	0	6	20	1	0	0	41	0	101	1,179
7:15 AM	0	0	0	26	0	0	0	2	0	4	23	0	0	0	35	1	91	1,173
7:20 AM	0	0	0	26	0	0	0	0	0	10	14	0	0	0	37	1	88	1,168
7:25 AM	0	0	0	30	0	0	0	0	0	10	18	0	0	0	31	1	90	1,184
7:30 AM	0	1	0	22	0	1	0	2	0	6	20	1	0	0	41	1	95	1,179
7:35 AM	0	0	0	38	0	2	0	0	0	12	22	1	0	0	35	0	110	1,150
7:40 AM	0	1	0	24	0	0	0	1	0	12	21	0	0	0	47	0	106	1,129
7:45 AM	0	0	0	25	0	0	0	1	0	12	17	2	0	1	49	0	107	1,139
7:50 AM	0	2	0	30	0	0	0	2	0	8	19	0	0	0	38	1	100	1,127
7:55 AM	0	1	0	19	0	1	0	1	0	18	14	0	0	0	32	2	88	1,093
8:00 AM	0	1	0	19	0	0	0	0	0	14	37	0	0	0	42	0	113	1,109
8:05 AM	0	2	0	23	0	1	0	0	0	15	20	1	0	1	25	2	90	
8:10 AM	0	0	0	19	0	0	0	0	0	18	31	0	0	0	27	0	95	
8:15 AM	0	1	0	20	0	2	0	0	0	13	24	0	0	0	25	1	86	
8:20 AM	0	1	0	34	0	0	0	0	0	15	25	0	0	0	28	1	104	
8:25 AM	0	1	0	21	0	0	0	1	0	11	26	0	0	0	23	2	85	
8:30 AM	0	0	0	14	0	0	0	0	0	12	14	1	0	1	24	0	66	
8:35 AM	0	0	0	16	0	0	0	0	0	20	27	0	0	0	26	0	89	
8:40 AM	0	1	0	20	0	1	0	0	0	10	33	0	0	1	49	1	116	
8:45 AM	0	0	0	24	0	1	0	0	0	18	16	0	0	0	36	0	95	
8:50 AM	0	0	0	18	0	0	0	0	0	13	13	0	0	0	21	1	66	
8:55 AM	0	0	0	21	0	2	0	0	0	15	30	0	0	0	34	2	104	
Count Total	0	13	1	574	0	11	0	11	0	290	521	7	0	4	802	17	2,251	
Peak Hour	0	10	0	303	0	7	0	7	0	153	268	5	0	2	420	9	1,184	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	0	0	1	7:00 AM						7:00 AM	0	0	1	0	1
7:05 AM	0	1	0	2	3	7:05 AM						7:05 AM	0	0	0	0	0
7:10 AM	0	2	0	0	2	7:10 AM						7:10 AM	1	0	2	0	3
7:15 AM	1	0	0	0	1	7:15 AM						7:15 AM	2	0	0	0	2
7:20 AM	2	1	0	0	3	7:20 AM						7:20 AM	0	0	0	0	0
7:25 AM	1	2	0	0	3	7:25 AM						7:25 AM	0	0	0	1	1
7:30 AM	0	0	0	1	1	7:30 AM						7:30 AM	0	0	1	0	1
7:35 AM	0	2	0	0	2	7:35 AM						7:35 AM	0	0	0	0	0
7:40 AM	1	2	0	0	3	7:40 AM						7:40 AM	0	0	0	0	0
7:45 AM	1	0	0	1	2	7:45 AM						7:45 AM	0	0	0	0	0
7:50 AM	1	0	0	0	1	7:50 AM						7:50 AM	0	0	0	0	0
7:55 AM	1	0	0	0	1	7:55 AM						7:55 AM	0	0	0	0	0
8:00 AM	2	3	0	0	5	8:00 AM						8:00 AM	0	0	0	0	0
8:05 AM	1	0	0	0	1	8:05 AM						8:05 AM	0	0	0	0	0
8:10 AM	0	2	0	0	2	8:10 AM						8:10 AM	0	0	0	0	0
8:15 AM	1	1	0	0	2	8:15 AM						8:15 AM	0	0	0	0	0
8:20 AM	2	2	0	0	4	8:20 AM						8:20 AM	0	0	0	0	0
8:25 AM	2	0	0	0	2	8:25 AM						8:25 AM	0	0	0	0	0
8:30 AM	1	2	0	0	3	8:30 AM						8:30 AM	0	0	0	0	0
8:35 AM	1	0	0	1	2	8:35 AM						8:35 AM	0	0	0	0	0
8:40 AM	0	1	1	1	3	8:40 AM						8:40 AM	0	0	0	0	0
8:45 AM	2	1	0	1	4	8:45 AM						8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM						8:50 AM	0	0	0	0	0
8:55 AM	1	4	0	1	6	8:55 AM						8:55 AM	0	0	0	0	0
Count Total	21	28	1	8	58	Count Total						Count Total	3	0	4	1	8
Peak Hour	11	14	0	2	27	Peak Hour						Peak Hour	0	0	1	1	2



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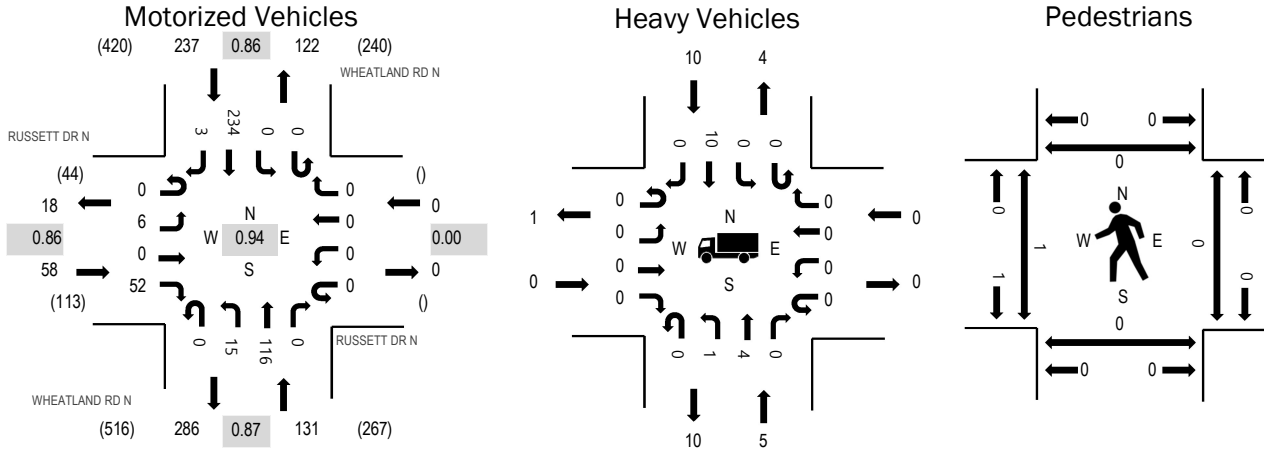
Location: 2 WHEATLAND RD N & RUSSETT DR N AM

Date: Tuesday, September 29, 2020

Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:25 AM - 07:40 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.86
WB	0.0%	0.00
NB	3.8%	0.87
SB	4.2%	0.86
All	3.5%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	RUSSETT DR N Eastbound				RUSSETT DR N Westbound				WHEATLAND RD N Northbound				WHEATLAND RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	5	0	0	0	0	0	1	8	0	0	0	24	0	38	421
7:05 AM	0	0	0	7	0	0	0	0	0	1	5	0	0	0	9	0	22	415
7:10 AM	0	1	0	4	0	0	0	0	0	0	12	0	0	0	19	0	36	425
7:15 AM	0	1	0	5	0	0	0	0	0	1	5	0	0	0	27	0	39	426
7:20 AM	0	0	0	4	0	0	0	0	0	1	10	0	0	0	16	0	31	412
7:25 AM	0	0	0	6	0	0	0	0	0	0	6	0	0	0	26	1	39	421
7:30 AM	0	0	0	5	0	0	0	0	0	1	8	0	0	0	20	0	34	416
7:35 AM	0	1	0	2	0	0	0	0	0	2	11	0	0	0	24	0	40	401
7:40 AM	0	0	0	7	0	0	0	0	0	0	6	0	0	0	19	0	32	393
7:45 AM	0	1	0	6	0	0	0	0	0	1	8	0	0	0	19	0	35	390
7:50 AM	0	0	0	4	0	0	0	0	0	0	17	0	0	0	16	0	37	391
7:55 AM	0	0	0	3	0	0	0	0	0	2	8	0	0	0	25	0	38	381
8:00 AM	0	0	0	2	0	0	0	0	0	2	13	0	0	0	13	2	32	379
8:05 AM	0	3	0	6	0	0	0	0	0	1	8	0	0	0	14	0	32	
8:10 AM	0	0	0	2	0	0	0	0	0	4	16	0	0	0	15	0	37	
8:15 AM	0	0	0	5	0	0	0	0	0	1	8	0	0	0	11	0	25	
8:20 AM	0	0	0	2	0	0	0	0	0	5	7	0	0	0	26	0	40	
8:25 AM	0	2	0	7	0	0	0	0	0	2	9	0	0	0	14	0	34	
8:30 AM	0	0	0	2	0	0	0	0	0	0	8	0	0	0	9	0	19	
8:35 AM	0	0	0	4	0	0	0	0	0	3	11	0	0	0	14	0	32	
8:40 AM	0	1	0	4	0	0	0	0	0	3	11	0	0	0	10	0	29	
8:45 AM	0	0	0	2	0	0	0	0	0	1	13	0	0	0	19	1	36	
8:50 AM	0	1	0	3	0	0	0	0	0	5	9	0	0	0	9	0	27	
8:55 AM	0	2	0	3	0	0	0	0	0	3	10	0	0	0	18	0	36	
Count Total	0	13	0	100	0	0	0	0	0	40	227	0	0	0	416	4	800	
Peak Hour	0	6	0	52	0	0	0	0	0	15	116	0	0	0	234	3	426	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	2	0	0	2	7:00 AM						7:00 AM	0	0	0	0	0
7:05 AM	0	1	0	0	1	7:05 AM						7:05 AM	0	0	0	0	0
7:10 AM	0	1	0	0	1	7:10 AM						7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0	7:15 AM						7:15 AM	0	0	0	0	0
7:20 AM	0	2	0	1	3	7:20 AM						7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	3	3	7:25 AM						7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM						7:30 AM	1	0	0	0	1
7:35 AM	0	2	0	0	2	7:35 AM						7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	0	0	7:40 AM						7:40 AM	0	0	0	0	0
7:45 AM	0	0	0	2	2	7:45 AM						7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	0	0	7:50 AM						7:50 AM	0	0	0	0	0
7:55 AM	0	0	0	2	2	7:55 AM						7:55 AM	0	0	0	0	0
8:00 AM	0	1	0	1	2	8:00 AM						8:00 AM	0	0	0	0	0
8:05 AM	0	0	0	1	1	8:05 AM						8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	0	0	8:10 AM						8:10 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1	8:15 AM						8:15 AM	0	0	0	0	0
8:20 AM	0	1	0	1	2	8:20 AM						8:20 AM	0	0	0	0	0
8:25 AM	0	0	0	2	2	8:25 AM						8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	1	1	8:30 AM						8:30 AM	0	0	0	0	0
8:35 AM	0	0	0	1	1	8:35 AM						8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM						8:40 AM	0	0	0	0	0
8:45 AM	0	0	0	1	1	8:45 AM						8:45 AM	0	1	0	0	1
8:50 AM	0	1	0	0	1	8:50 AM						8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	1	1	8:55 AM						8:55 AM	0	0	0	0	0
Count Total	1	11	0	17	29	Count Total						Count Total	1	1	0	0	2
Peak Hour	0	5	0	10	15	Peak Hour						Peak Hour	1	0	0	0	1



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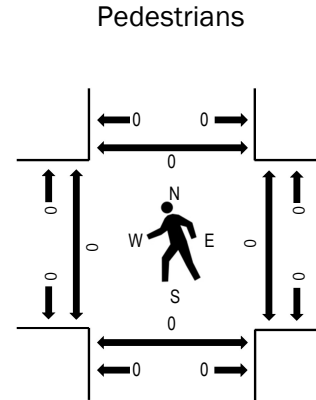
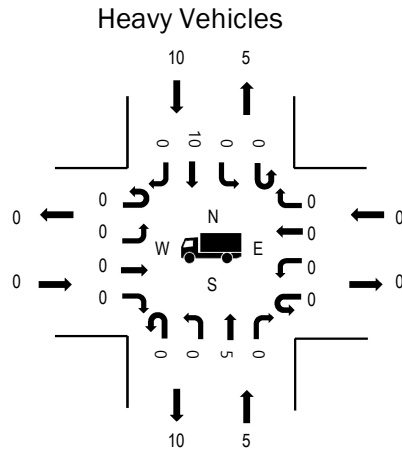
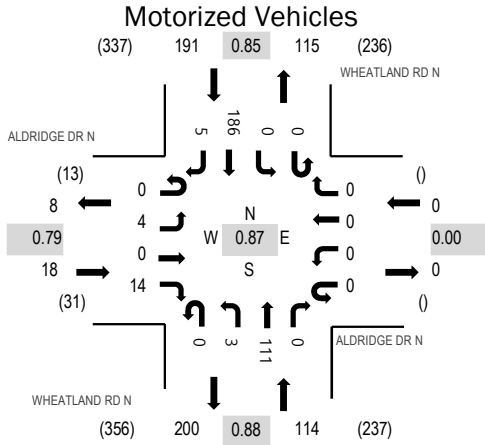
Location: 3 WHEATLAND RD N & ALDRIDGE DR N AM

Date: Tuesday, September 29, 2020

Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:50 AM - 08:05 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.79
WB	0.0%	0.00
NB	4.4%	0.88
SB	5.2%	0.85
All	4.6%	0.87

Traffic Counts - Motorized Vehicles

Interval Start Time	ALDRIDGE DR N Eastbound				ALDRIDGE DR N Westbound				WHEATLAND RD N Northbound				WHEATLAND RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	1	0	2	0	0	0	0	0	0	10	0	0	0	16	0	29	314
7:05 AM	0	0	0	1	0	0	0	0	0	0	7	0	0	0	9	0	17	315
7:10 AM	0	0	0	0	0	0	0	0	0	1	11	0	0	0	16	0	28	322
7:15 AM	0	0	0	3	0	0	0	0	0	0	7	0	0	0	18	0	28	323
7:20 AM	0	0	0	2	0	0	0	0	0	0	13	0	0	0	11	0	26	317
7:25 AM	0	0	0	1	0	0	0	0	0	0	5	0	0	0	20	0	26	321
7:30 AM	0	0	0	1	0	0	0	0	0	0	8	0	0	0	15	0	24	320
7:35 AM	0	0	0	0	0	0	0	0	0	0	12	0	0	0	22	0	34	311
7:40 AM	0	1	0	1	0	0	0	0	0	1	3	0	0	0	9	0	15	300
7:45 AM	0	0	0	1	0	0	0	0	0	0	8	0	0	0	15	0	24	303
7:50 AM	0	2	0	1	0	0	0	0	0	0	11	0	0	0	17	1	32	311
7:55 AM	0	1	0	1	0	0	0	0	0	1	7	0	0	0	19	2	31	299
8:00 AM	0	0	0	1	0	0	0	0	0	0	13	0	0	0	15	1	30	291
8:05 AM	0	0	0	1	0	0	0	0	0	0	10	0	0	0	12	1	24	
8:10 AM	0	0	0	1	0	0	0	0	0	1	14	0	0	0	13	0	29	
8:15 AM	0	0	0	0	0	0	0	0	0	1	10	0	0	0	11	0	22	
8:20 AM	0	0	0	2	0	0	0	0	0	0	9	0	0	0	19	0	30	
8:25 AM	0	0	0	1	0	0	0	0	0	2	10	0	0	0	12	0	25	
8:30 AM	0	1	0	1	0	0	0	0	0	0	8	0	0	0	5	0	15	
8:35 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	12	0	23	
8:40 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	8	0	18	
8:45 AM	0	0	0	1	0	0	0	0	0	0	15	0	0	0	16	0	32	
8:50 AM	0	1	0	1	0	0	0	0	0	1	8	0	0	0	9	0	20	
8:55 AM	0	0	0	1	0	0	0	0	0	0	9	0	0	0	13	0	23	
Count Total	0	7	0	24	0	0	0	0	0	8	229	0	0	0	332	5	605	
Peak Hour	0	4	0	14	0	0	0	0	0	3	111	0	0	0	186	5	323	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	0	0	1	7:00 AM						7:00 AM	0	0	0	0	0
7:05 AM	0	1	0	0	1	7:05 AM						7:05 AM	0	0	0	0	0
7:10 AM	0	2	0	0	2	7:10 AM						7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0	7:15 AM						7:15 AM	0	0	0	0	0
7:20 AM	0	2	0	1	3	7:20 AM						7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	2	2	7:25 AM						7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM						7:30 AM	0	0	0	0	0
7:35 AM	0	1	0	0	1	7:35 AM						7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	0	0	7:40 AM						7:40 AM	0	0	0	0	0
7:45 AM	0	0	0	2	2	7:45 AM						7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	0	0	7:50 AM						7:50 AM	1	0	0	0	1
7:55 AM	0	0	0	2	2	7:55 AM						7:55 AM	0	0	0	0	0
8:00 AM	0	1	0	2	3	8:00 AM						8:00 AM	0	0	0	0	0
8:05 AM	0	0	0	1	1	8:05 AM						8:05 AM	0	0	0	0	0
8:10 AM	0	1	0	0	1	8:10 AM						8:10 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0	8:15 AM						8:15 AM	0	0	0	0	0
8:20 AM	0	1	0	0	1	8:20 AM						8:20 AM	0	0	0	0	0
8:25 AM	1	0	0	1	2	8:25 AM						8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	1	1	8:30 AM						8:30 AM	0	0	0	0	0
8:35 AM	0	0	0	1	1	8:35 AM						8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM						8:40 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1	8:45 AM						8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM						8:50 AM	1	0	0	0	1
8:55 AM	0	0	0	1	1	8:55 AM						8:55 AM	1	0	0	0	1
Count Total	1	12	0	14	27	Count Total						Count Total	3	0	0	0	3
Peak Hour	0	5	0	10	15	Peak Hour						Peak Hour	1	0	0	0	1



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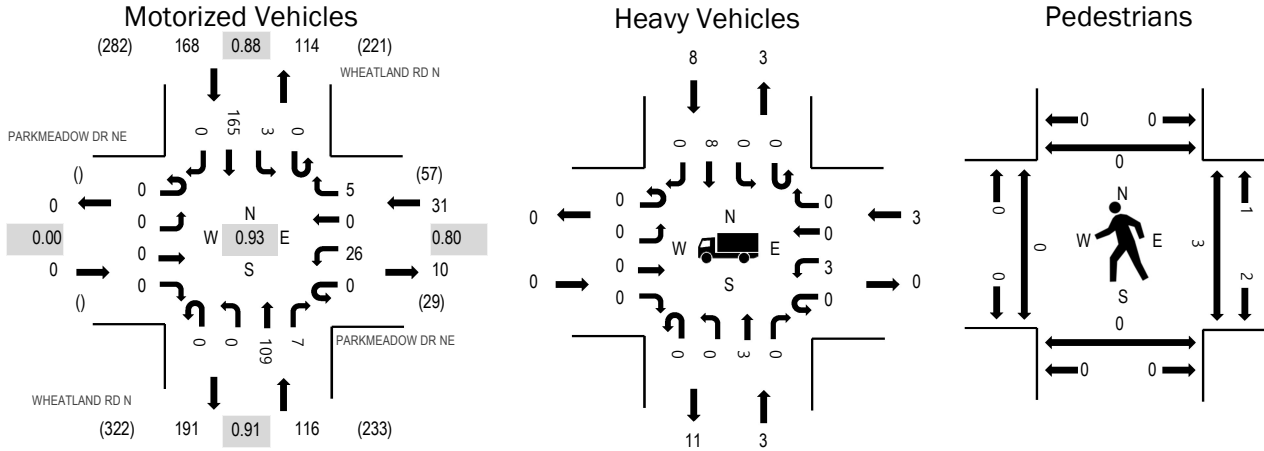
Location: 4 WHEATLAND RD N & PARKMEADOW DR NE AM

Date: Tuesday, September 29, 2020

Peak Hour: 07:25 AM - 08:25 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	9.7%	0.80
NB	2.6%	0.91
SB	4.8%	0.88
All	4.4%	0.93

Traffic Counts - Motorized Vehicles

Interval Start Time	PARKMEADOW DR NE Eastbound				PARKMEADOW DR NE Westbound				WHEATLAND RD N Northbound				WHEATLAND RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	2	0	1	0	0	7	1	0	0	9	0	20	295
7:05 AM	0	0	0	0	0	3	0	1	0	0	6	0	0	0	11	0	21	301
7:10 AM	0	0	0	0	0	2	0	0	0	0	9	2	0	0	10	0	23	304
7:15 AM	0	0	0	0	0	1	0	0	0	0	10	1	0	1	13	0	26	309
7:20 AM	0	0	0	0	0	3	0	0	0	0	8	1	0	0	9	0	21	303
7:25 AM	0	0	0	0	0	3	0	0	0	0	6	1	0	0	18	0	28	315
7:30 AM	0	0	0	0	0	2	0	1	0	0	7	0	0	0	13	0	23	303
7:35 AM	0	0	0	0	0	3	0	0	0	0	13	0	0	0	17	0	33	301
7:40 AM	0	0	0	0	0	1	0	1	0	0	2	1	0	0	10	0	15	282
7:45 AM	0	0	0	0	0	6	0	0	0	0	12	0	0	0	8	0	26	293
7:50 AM	0	0	0	0	0	1	0	0	0	0	10	2	0	0	18	0	31	296
7:55 AM	0	0	0	0	0	3	0	1	0	0	10	0	0	0	14	0	28	285
8:00 AM	0	0	0	0	0	3	0	0	0	0	11	0	0	0	12	0	26	277
8:05 AM	0	0	0	0	0	0	0	1	0	0	9	0	0	0	14	0	24	
8:10 AM	0	0	0	0	0	0	0	0	0	0	12	3	0	0	13	0	28	
8:15 AM	0	0	0	0	0	1	0	0	0	0	10	0	0	0	9	0	20	
8:20 AM	0	0	0	0	0	3	0	1	0	0	7	0	0	3	19	0	33	
8:25 AM	0	0	0	0	0	1	0	0	0	0	8	1	0	0	6	0	16	
8:30 AM	0	0	0	0	0	2	0	1	0	0	12	1	0	0	5	0	21	
8:35 AM	0	0	0	0	0	1	0	0	0	0	5	1	0	0	7	0	14	
8:40 AM	0	0	0	0	0	1	0	0	0	0	10	4	0	1	10	0	26	
8:45 AM	0	0	0	0	0	1	0	1	0	0	10	2	0	0	15	0	29	
8:50 AM	0	0	0	0	0	1	0	2	0	0	6	2	0	0	9	0	20	
8:55 AM	0	0	0	0	0	1	0	1	0	0	9	1	0	0	8	0	20	
Count Total	0	0	0	0	0	45	0	12	0	0	209	24	0	5	277	0	572	
Peak Hour	0	0	0	0	0	26	0	5	0	0	109	7	0	3	165	0	315	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	2	0	0	2	7:00 AM						7:00 AM	0	0	2	0	2
7:05 AM	0	1	0	0	1	7:05 AM						7:05 AM	0	0	0	0	0
7:10 AM	0	1	0	0	1	7:10 AM						7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1	7:15 AM						7:15 AM	0	0	0	0	0
7:20 AM	0	2	1	1	4	7:20 AM						7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	1	1	7:25 AM						7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM						7:30 AM	0	0	1	0	1
7:35 AM	0	0	0	0	0	7:35 AM						7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	1	1	7:40 AM						7:40 AM	0	0	0	0	0
7:45 AM	0	0	0	1	1	7:45 AM						7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	1	1	7:50 AM						7:50 AM	0	0	1	0	1
7:55 AM	0	0	1	0	1	7:55 AM						7:55 AM	0	0	1	0	1
8:00 AM	0	1	1	1	3	8:00 AM						8:00 AM	0	0	0	0	0
8:05 AM	0	0	0	1	1	8:05 AM						8:05 AM	0	0	0	0	0
8:10 AM	0	1	0	0	1	8:10 AM						8:10 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0	8:15 AM						8:15 AM	0	0	0	0	0
8:20 AM	0	1	1	2	4	8:20 AM						8:20 AM	0	0	0	0	0
8:25 AM	0	0	0	0	0	8:25 AM						8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	1	1	8:30 AM						8:30 AM	0	0	0	0	0
8:35 AM	0	0	1	0	1	8:35 AM						8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM						8:40 AM	0	0	1	0	1
8:45 AM	0	1	0	0	1	8:45 AM						8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM						8:50 AM	0	0	0	0	0
8:55 AM	0	0	1	0	1	8:55 AM						8:55 AM	0	0	0	0	0
Count Total	0	11	6	11	28	Count Total						Count Total	0	0	6	0	6
Peak Hour	0	3	3	8	14	Peak Hour						Peak Hour	0	0	3	0	3



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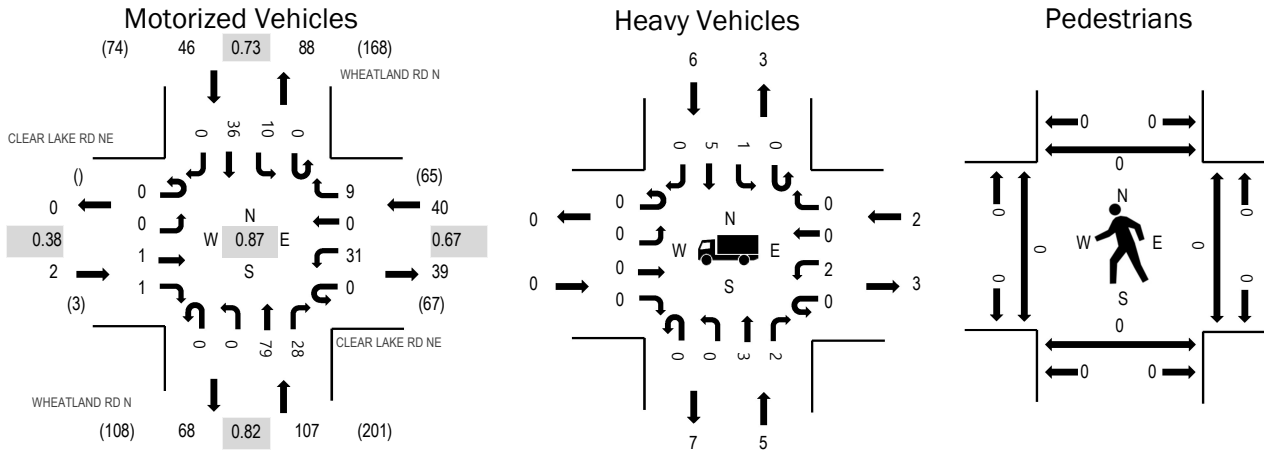
Location: 5 WHEATLAND RD N & CLEAR LAKE RD NE AM

Date: Tuesday, September 29, 2020

Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:20 AM - 07:35 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.38
WB	5.0%	0.67
NB	4.7%	0.82
SB	13.0%	0.73
All	6.7%	0.87

Traffic Counts - Motorized Vehicles

Interval Start Time	CLEAR LAKE RD NE Eastbound				CLEAR LAKE RD NE Westbound				WHEATLAND RD N Northbound				WHEATLAND RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	1	0	0	0	0	0	0	7	3	0	2	2	0	15	181
7:05 AM	0	0	0	0	0	0	0	0	0	0	8	3	0	1	2	0	14	182
7:10 AM	0	0	0	0	0	3	0	0	0	0	8	0	0	0	1	0	12	189
7:15 AM	0	0	0	1	0	4	0	0	0	0	5	0	0	0	1	0	11	195
7:20 AM	0	0	1	0	0	3	0	1	0	0	10	2	0	2	3	0	22	195
7:25 AM	0	0	0	0	0	2	0	1	0	0	3	3	0	2	5	0	16	190
7:30 AM	0	0	0	0	0	4	0	0	0	0	8	2	0	2	2	0	18	187
7:35 AM	0	0	0	0	0	4	0	1	0	0	9	2	0	1	4	0	21	180
7:40 AM	0	0	0	0	0	4	0	2	0	0	5	1	0	0	1	0	13	171
7:45 AM	0	0	0	0	0	2	0	1	0	0	8	1	0	0	0	0	12	166
7:50 AM	0	0	0	0	0	2	0	0	0	0	4	2	0	0	5	0	13	166
7:55 AM	0	0	0	0	0	1	0	0	0	0	5	4	0	2	2	0	14	159
8:00 AM	0	0	0	0	0	1	0	1	0	0	6	4	0	0	4	0	16	162
8:05 AM	0	0	0	0	0	1	0	2	0	0	7	3	0	1	7	0	21	
8:10 AM	0	0	0	0	0	3	0	0	0	0	9	4	0	0	2	0	18	
8:15 AM	0	0	0	0	0	4	0	0	0	0	5	0	0	0	2	0	11	
8:20 AM	0	0	0	0	0	2	0	1	0	0	8	3	0	0	3	0	17	
8:25 AM	0	0	0	0	0	2	0	2	0	0	6	2	0	0	1	0	13	
8:30 AM	0	0	0	0	0	1	0	1	0	0	2	4	0	0	3	0	11	
8:35 AM	0	0	0	0	0	0	0	0	0	0	7	2	0	1	2	0	12	
8:40 AM	0	0	0	0	0	1	0	0	0	0	3	0	0	1	3	0	8	
8:45 AM	0	0	0	0	0	2	0	2	0	0	5	1	0	0	2	0	12	
8:50 AM	0	0	0	0	0	0	0	1	0	0	3	2	0	0	0	0	6	
8:55 AM	0	0	0	0	0	2	0	1	0	0	10	2	0	1	1	0	17	
Count Total	0	0	1	2	0	48	0	17	0	0	151	50	0	16	58	0	343	
Peak Hour	0	0	1	1	0	31	0	9	0	0	79	28	0	10	36	0	195	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

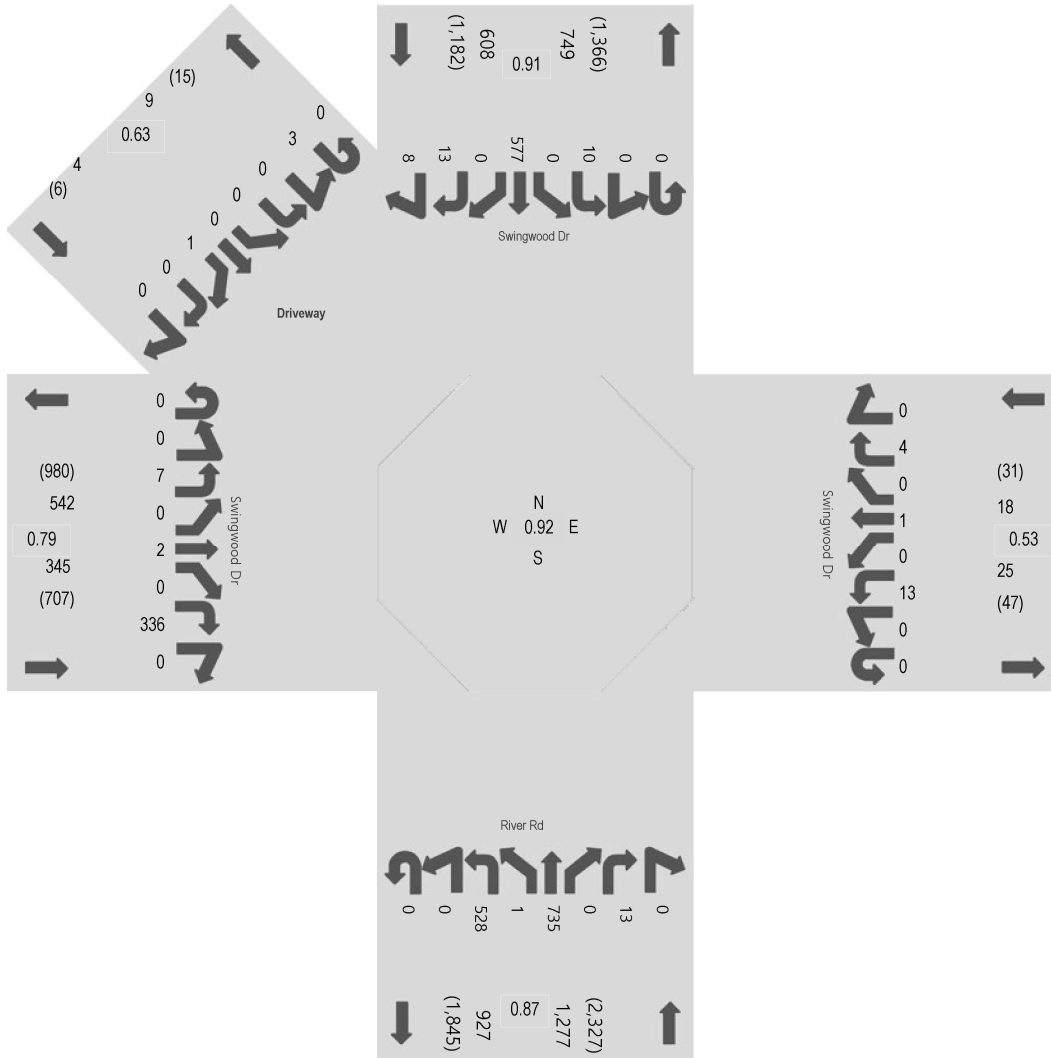
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	0	0	1	7:00 AM						7:00 AM	0	0	0	0	0
7:05 AM	0	1	0	0	1	7:05 AM						7:05 AM	0	1	0	0	1
7:10 AM	0	1	0	0	1	7:10 AM						7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0	7:15 AM						7:15 AM	0	0	0	0	0
7:20 AM	0	0	0	1	1	7:20 AM						7:20 AM	0	0	0	0	0
7:25 AM	0	1	1	0	2	7:25 AM						7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM						7:30 AM	0	0	0	0	0
7:35 AM	0	1	0	0	1	7:35 AM						7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	1	1	7:40 AM						7:40 AM	0	0	0	0	0
7:45 AM	0	0	1	0	1	7:45 AM						7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	1	1	7:50 AM						7:50 AM	0	0	0	0	0
7:55 AM	0	1	0	1	2	7:55 AM						7:55 AM	0	0	0	0	0
8:00 AM	0	1	0	1	2	8:00 AM						8:00 AM	0	0	0	0	0
8:05 AM	0	0	0	1	1	8:05 AM						8:05 AM	0	0	0	0	0
8:10 AM	0	1	0	0	1	8:10 AM						8:10 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0	8:15 AM						8:15 AM	0	0	0	0	0
8:20 AM	0	0	0	2	2	8:20 AM						8:20 AM	0	0	0	0	0
8:25 AM	0	0	0	0	0	8:25 AM						8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0	8:30 AM						8:30 AM	0	0	0	0	0
8:35 AM	0	0	0	0	0	8:35 AM						8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM						8:40 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1	8:45 AM						8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM						8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	0	0	8:55 AM						8:55 AM	0	0	0	0	0
Count Total	0	10	2	8	20	Count Total						Count Total	0	1	0	0	1
Peak Hour	0	5	2	6	13	Peak Hour						Peak Hour	0	0	0	0	0



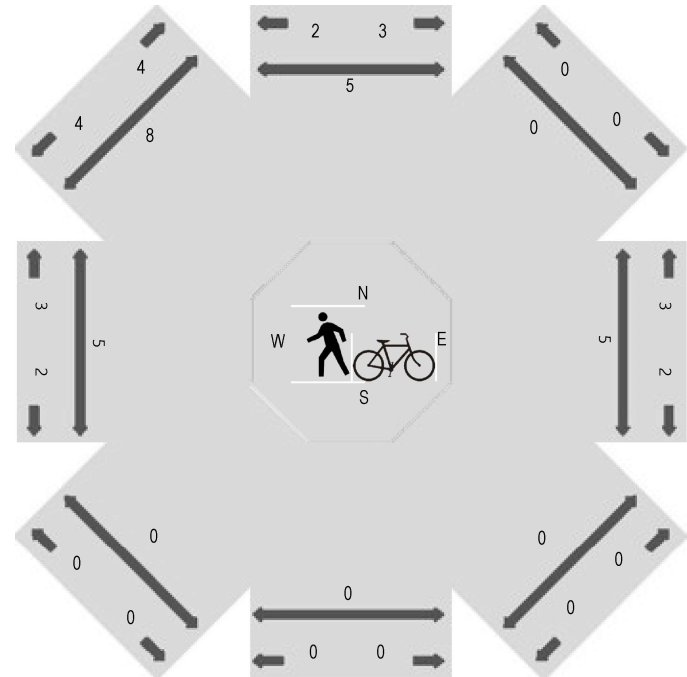
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Location: River Rd & Swingwood Dr PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:55 PM - 05:55 PM
Peak 15-Minutes: 04:55 PM - 05:10 PM

Peak Hour - Motorized Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

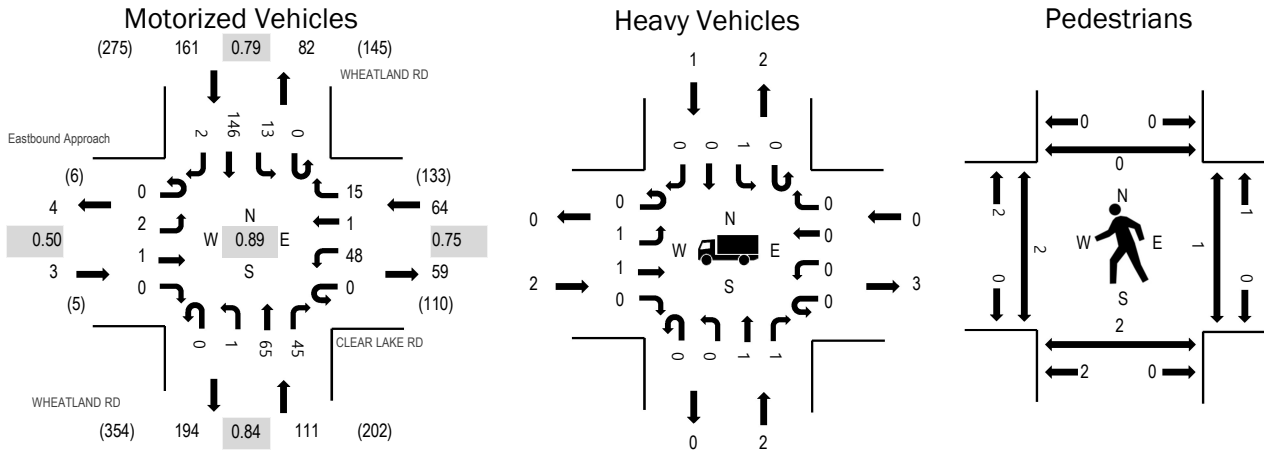


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Location: WHEATLAND RD & CLEAR LAKE RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:35 PM - 05:35 PM
Peak 15-Minutes: 04:40 PM - 04:55 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	66.7%	0.50
WB	0.0%	0.75
NB	1.8%	0.84
SB	0.6%	0.79
All	1.5%	0.89

Traffic Counts - Motorized Vehicles

Interval Start Time	Eastbound Approach				CLEAR LAKE RD				WHEATLAND RD				WHEATLAND RD				Total	Rolling Hour
	Eastbound				Westbound				Northbound				Southbound					
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	11	0	1	0	0	5	6	0	1	5	0	29	314
4:05 PM	0	1	0	0	0	6	0	2	0	0	11	3	0	1	6	0	30	313
4:10 PM	0	0	0	1	0	1	0	2	0	0	2	3	0	0	12	0	21	305
4:15 PM	0	0	0	0	0	8	0	1	0	0	4	4	0	2	8	0	27	310
4:20 PM	0	0	0	0	0	3	0	0	0	0	2	7	0	0	7	0	19	307
4:25 PM	0	0	0	0	0	2	0	1	0	0	5	2	0	0	10	0	20	322
4:30 PM	0	0	0	0	0	2	0	2	0	0	2	4	0	0	8	0	18	331
4:35 PM	0	0	0	0	0	6	0	1	0	0	6	2	0	2	11	0	28	339
4:40 PM	0	0	1	0	0	4	0	0	0	0	4	4	0	0	15	0	28	336
4:45 PM	0	0	0	0	0	6	0	1	0	0	3	2	0	1	17	1	31	334
4:50 PM	0	0	0	0	0	2	0	2	0	0	9	6	0	2	15	0	36	319
4:55 PM	0	1	0	0	0	2	0	3	0	0	9	4	0	2	6	0	27	313
5:00 PM	0	0	0	0	0	5	0	1	0	0	5	1	0	0	16	0	28	301
5:05 PM	0	0	0	0	0	1	0	0	0	1	7	3	0	0	10	0	22	
5:10 PM	0	0	0	0	0	4	1	2	0	0	6	3	0	1	9	0	26	
5:15 PM	0	1	0	0	0	3	0	1	0	0	3	5	0	0	10	1	24	
5:20 PM	0	0	0	0	0	6	0	1	0	0	3	8	0	3	13	0	34	
5:25 PM	0	0	0	0	0	5	0	2	0	0	4	4	0	0	14	0	29	
5:30 PM	0	0	0	0	0	4	0	1	0	0	6	3	0	2	10	0	26	
5:35 PM	0	0	0	0	0	5	0	0	0	0	6	2	0	1	11	0	25	
5:40 PM	0	0	0	0	0	4	0	2	0	1	5	5	0	0	9	0	26	
5:45 PM	0	0	0	0	0	4	0	0	0	0	1	3	0	3	4	1	16	
5:50 PM	0	0	0	0	0	7	0	2	0	0	4	1	0	1	15	0	30	
5:55 PM	0	0	0	0	0	2	0	1	0	0	1	2	0	0	9	0	15	
Count Total	0	3	1	1	0	103	1	29	0	2	113	87	0	22	250	3	615	
Peak Hour	0	2	1	0	0	48	1	15	0	1	65	45	0	13	146	2	339	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1	1	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	1	0	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	2	0	0	2
4:20 PM	0	1	0	0	1	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	3	0	0	3	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	1	0	0	0	1
4:35 PM	0	1	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	1	0	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	1	0	1
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	1	0	1
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	2	2	0	0	4
5:15 PM	1	0	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	4	2	3	11	Count Total	0	3	0	0	3	Count Total	3	4	2	0	9
Peak Hour	2	2	0	1	5	Peak Hour	0	0	0	0	0	Peak Hour	2	2	2	0	6



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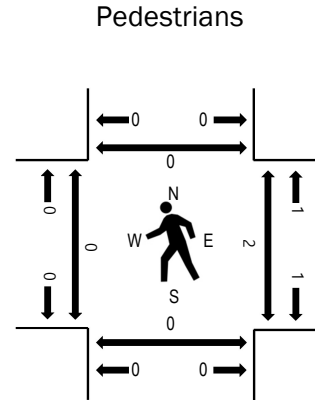
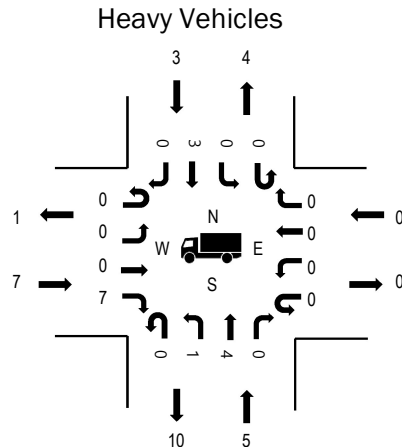
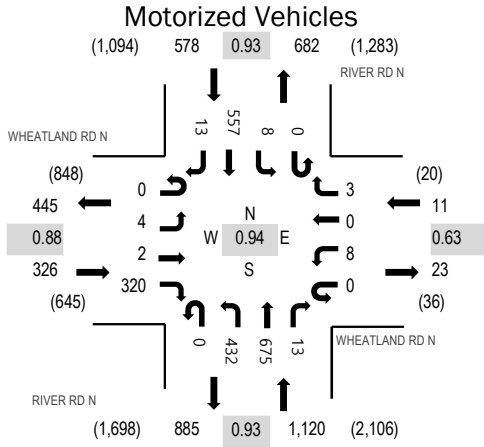
Location: 1 RIVER RD N & WHEATLAND RD N PM

Date: Tuesday, September 29, 2020

Peak Hour: 04:50 PM - 05:50 PM

Peak 15-Minutes: 05:20 PM - 05:35 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.1%	0.88
WB	0.0%	0.63
NB	0.4%	0.93
SB	0.5%	0.93
All	0.7%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	WHEATLAND RD N Eastbound				WHEATLAND RD N Westbound				RIVER RD N Northbound				RIVER RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	4	0	25	0	0	0	0	0	21	33	1	0	0	48	0	132	1,854
4:05 PM	0	0	0	43	0	0	0	0	0	25	48	0	0	1	38	1	156	1,880
4:10 PM	0	4	0	25	0	1	1	0	0	26	55	2	0	0	42	1	157	1,917
4:15 PM	0	0	0	18	0	0	0	0	0	32	62	0	0	1	47	2	162	1,922
4:20 PM	0	0	0	24	0	1	1	0	0	37	52	1	0	1	47	1	165	1,934
4:25 PM	0	0	0	20	0	1	0	0	0	28	46	0	0	1	50	2	148	1,942
4:30 PM	0	1	0	32	0	1	0	0	0	23	51	2	0	0	47	1	158	1,981
4:35 PM	0	1	0	27	0	0	0	1	0	42	51	1	0	0	40	1	164	2,003
4:40 PM	0	0	0	30	0	1	0	1	0	33	40	1	0	0	42	1	149	2,010
4:45 PM	0	0	0	28	0	0	0	0	0	38	46	0	0	0	35	0	147	2,019
4:50 PM	0	0	0	23	0	0	0	0	0	37	61	0	0	0	39	1	161	2,035
4:55 PM	0	0	0	18	0	1	0	0	0	34	47	1	0	1	53	0	155	2,026
5:00 PM	0	0	0	39	0	1	0	0	0	34	43	0	0	0	41	0	158	2,011
5:05 PM	0	1	1	26	0	1	0	2	0	34	80	1	0	0	47	0	193	
5:10 PM	0	0	0	28	0	1	0	0	0	34	49	1	0	0	48	1	162	
5:15 PM	0	2	0	24	0	2	0	0	0	41	55	3	0	0	46	1	174	
5:20 PM	0	0	0	24	0	1	0	1	0	45	56	1	0	0	43	2	173	
5:25 PM	0	0	0	24	0	0	0	0	0	41	56	2	0	2	59	3	187	
5:30 PM	0	0	0	29	0	1	0	0	0	34	69	1	0	1	43	2	180	
5:35 PM	0	1	1	33	0	0	0	0	0	37	57	0	0	1	41	0	171	
5:40 PM	0	0	0	25	0	0	0	0	0	29	52	3	0	1	46	2	158	
5:45 PM	0	0	0	27	0	0	0	0	0	32	50	0	0	2	51	1	163	
5:50 PM	0	1	0	23	0	0	0	0	0	43	54	1	0	0	29	1	152	
5:55 PM	0	0	0	13	0	0	0	0	0	41	50	0	0	0	35	1	140	
Count Total	0	15	2	628	0	13	2	5	0	821	1,263	22	0	12	1,057	25	3,865	
Peak Hour	0	4	2	320	0	8	0	3	0	432	675	13	0	8	557	13	2,035	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	1	2	4:00 PM						4:00 PM	0	0	1	1	2
4:05 PM	1	0	0	0	1	4:05 PM						4:05 PM	2	0	0	1	3
4:10 PM	0	0	0	0	0	4:10 PM						4:10 PM	0	0	0	1	1
4:15 PM	0	1	0	0	1	4:15 PM						4:15 PM	0	0	0	2	2
4:20 PM	0	0	0	0	0	4:20 PM						4:20 PM	0	0	0	0	0
4:25 PM	1	2	0	0	3	4:25 PM						4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM						4:30 PM	0	0	0	0	0
4:35 PM	1	0	0	0	1	4:35 PM						4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	0	1	4:40 PM						4:40 PM	0	0	1	0	1
4:45 PM	0	1	0	1	2	4:45 PM						4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM						4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	1	1	4:55 PM						4:55 PM	0	0	0	0	0
5:00 PM	2	0	0	0	2	5:00 PM						5:00 PM	0	0	0	0	0
5:05 PM	0	1	0	0	1	5:05 PM						5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	0	1	5:10 PM						5:10 PM	0	0	0	0	0
5:15 PM	2	1	0	0	3	5:15 PM						5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	1	1	5:20 PM						5:20 PM	0	0	0	0	0
5:25 PM	1	2	0	0	3	5:25 PM						5:25 PM	0	0	2	5	7
5:30 PM	0	0	0	0	0	5:30 PM						5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM						5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM						5:40 PM	0	0	0	0	0
5:45 PM	2	0	0	0	2	5:45 PM						5:45 PM	0	0	1	0	1
5:50 PM	0	1	0	0	1	5:50 PM						5:50 PM	0	0	0	0	0
5:55 PM	0	1	0	0	1	5:55 PM						5:55 PM	0	0	0	0	0
Count Total	11	12	0	5	28	Count Total						Count Total	2	0	5	10	17
Peak Hour	7	5	0	3	15	Peak Hour						Peak Hour	0	0	3	5	8



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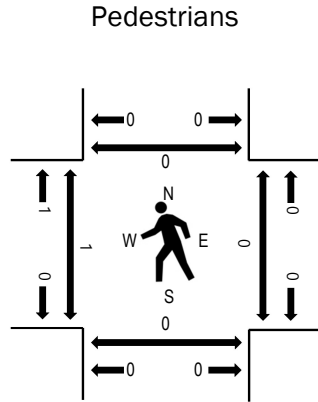
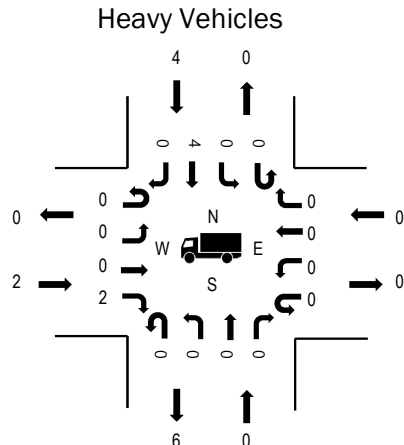
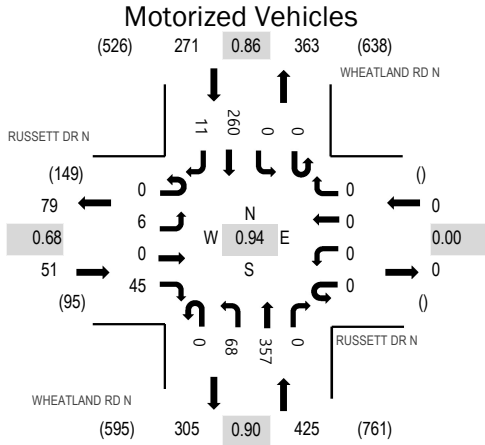
Location: 2 WHEATLAND RD N & RUSSETT DR N PM

Date: Tuesday, September 29, 2020

Peak Hour: 04:55 PM - 05:55 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.9%	0.68
WB	0.0%	0.00
NB	0.0%	0.90
SB	1.5%	0.86
All	0.8%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	RUSSETT DR N Eastbound				RUSSETT DR N Westbound				WHEATLAND RD N Northbound				WHEATLAND RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	5	0	0	0	0	0	7	12	0	0	0	25	0	49	652
4:05 PM	0	0	0	5	0	0	0	0	0	3	26	0	0	0	29	0	63	668
4:10 PM	0	0	0	5	0	0	0	0	0	2	16	0	0	0	25	0	48	666
4:15 PM	0	0	0	4	0	0	0	0	0	9	30	0	0	0	17	1	61	675
4:20 PM	0	0	0	2	0	0	0	0	0	5	26	0	0	0	14	1	48	682
4:25 PM	0	0	0	5	0	0	0	0	0	3	16	0	0	0	19	2	45	699
4:30 PM	0	1	0	1	0	0	0	0	0	6	28	0	0	0	25	0	61	719
4:35 PM	0	1	0	4	0	0	0	0	0	4	18	0	0	0	17	0	44	714
4:40 PM	0	0	0	3	0	0	0	0	0	5	35	0	0	0	25	1	69	738
4:45 PM	0	1	0	4	0	0	0	0	0	6	25	0	0	0	27	1	64	720
4:50 PM	0	0	0	2	0	0	0	0	0	7	18	0	0	0	14	0	41	723
4:55 PM	0	2	0	3	0	0	0	0	0	3	34	0	0	0	16	1	59	747
5:00 PM	0	0	0	2	0	0	0	0	0	8	33	0	0	0	22	0	65	730
5:05 PM	0	1	0	4	0	0	0	0	0	7	24	0	0	0	25	0	61	
5:10 PM	0	0	0	2	0	0	0	0	0	3	31	0	0	0	21	0	57	
5:15 PM	0	1	0	6	0	0	0	0	0	4	37	0	0	0	18	2	68	
5:20 PM	0	0	0	9	0	0	0	0	0	4	32	0	0	0	19	1	65	
5:25 PM	0	1	0	2	0	0	0	0	0	6	35	0	0	0	19	2	65	
5:30 PM	0	0	0	0	0	0	0	0	0	6	23	0	0	0	24	3	56	
5:35 PM	0	0	0	4	0	0	0	0	0	4	29	0	0	0	31	0	68	
5:40 PM	0	0	0	3	0	0	0	0	0	7	23	0	0	0	18	0	51	
5:45 PM	0	0	0	7	0	0	0	0	0	6	29	0	0	0	25	0	67	
5:50 PM	0	1	0	3	0	0	0	0	0	10	27	0	0	0	22	2	65	
5:55 PM	0	0	0	1	0	0	0	0	0	7	22	0	0	0	12	0	42	
Count Total	0	9	0	86	0	0	0	0	0	132	629	0	0	0	509	17	1,382	
Peak Hour	0	6	0	45	0	0	0	0	0	68	357	0	0	0	260	11	747	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	1	1	4:00 PM						4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM						4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM						4:10 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1	4:15 PM						4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM						4:20 PM	1	0	0	0	1
4:25 PM	0	0	0	1	1	4:25 PM						4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM						4:30 PM	0	0	0	1	1
4:35 PM	0	0	0	1	1	4:35 PM						4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM						4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM						4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM						4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM						4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1	5:00 PM						5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	1	1	5:05 PM						5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM						5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM						5:15 PM	0	0	0	0	0
5:20 PM	1	0	0	0	1	5:20 PM						5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM						5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM						5:30 PM	1	0	0	0	1
5:35 PM	0	0	0	0	0	5:35 PM						5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM						5:40 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1	5:45 PM						5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM						5:50 PM	0	0	0	0	0
5:55 PM	0	1	0	0	1	5:55 PM						5:55 PM	0	0	0	0	0
Count Total	2	2	0	7	11	Count Total						Count Total	2	0	0	1	3
Peak Hour	2	0	0	4	6	Peak Hour						Peak Hour	1	0	0	0	1



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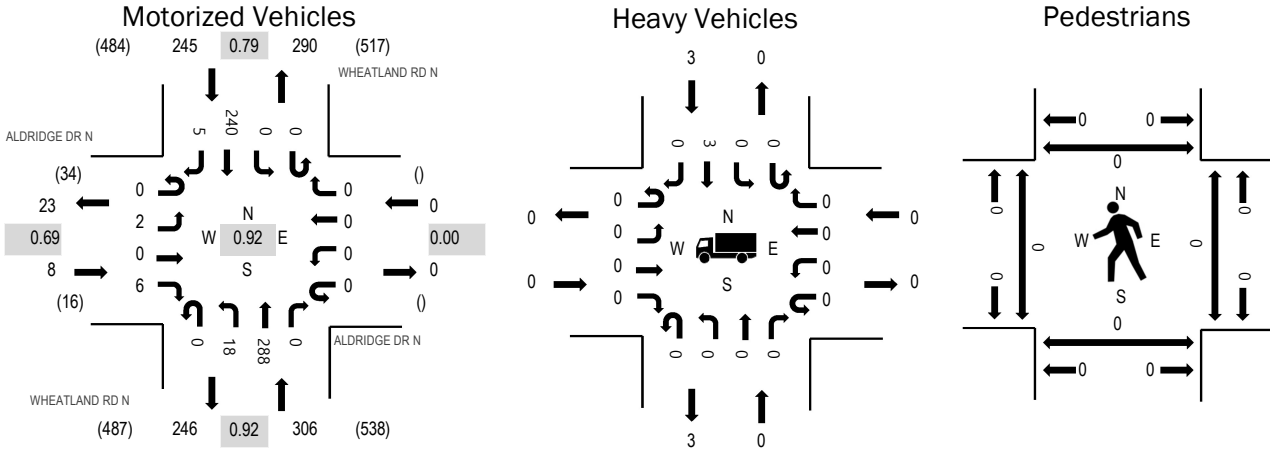
Location: 3 WHEATLAND RD N & ALDRIDGE DR N PM

Date: Tuesday, September 29, 2020

Peak Hour: 04:40 PM - 05:40 PM

Peak 15-Minutes: 05:25 PM - 05:40 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.69
WB	0.0%	0.00
NB	0.0%	0.92
SB	1.2%	0.79
All	0.5%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	ALDRIDGE DR N Eastbound				ALDRIDGE DR N Westbound				WHEATLAND RD N Northbound				WHEATLAND RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	2	0	0	0	0	0	0	9	0	0	0	21	0	32	497
4:05 PM	0	0	0	1	0	0	0	0	0	0	20	0	0	0	25	0	46	512
4:10 PM	0	0	0	0	0	0	0	0	0	0	18	0	0	0	24	1	43	512
4:15 PM	0	0	0	0	0	0	0	0	0	2	20	0	0	0	19	0	41	517
4:20 PM	0	0	0	1	0	0	0	0	0	1	26	0	0	0	12	0	40	525
4:25 PM	0	0	0	0	0	0	0	0	0	1	14	0	0	0	23	1	39	528
4:30 PM	0	1	0	1	0	0	0	0	0	0	24	0	0	0	24	0	50	533
4:35 PM	0	0	0	1	0	0	0	0	0	0	12	0	0	0	18	1	32	534
4:40 PM	0	0	0	1	0	0	0	0	0	1	27	0	0	0	18	1	48	559
4:45 PM	0	0	0	0	0	0	0	0	0	3	22	0	0	0	25	0	50	551
4:50 PM	0	1	0	2	0	0	0	0	0	3	16	0	0	0	12	2	36	543
4:55 PM	0	0	0	0	0	0	0	0	0	2	23	0	0	0	14	1	40	551
5:00 PM	0	0	0	1	0	0	0	0	0	2	23	0	0	0	21	0	47	541
5:05 PM	0	0	0	0	0	0	0	0	0	2	24	0	0	0	20	0	46	
5:10 PM	0	0	0	1	0	0	0	0	0	0	28	0	0	0	18	1	48	
5:15 PM	0	0	0	0	0	0	0	0	0	1	27	0	0	0	21	0	49	
5:20 PM	0	0	0	1	0	0	0	0	0	0	27	0	0	0	15	0	43	
5:25 PM	0	0	0	0	0	0	0	0	0	2	26	0	0	0	16	0	44	
5:30 PM	0	1	0	0	0	0	0	0	0	1	21	0	0	0	28	0	51	
5:35 PM	0	0	0	0	0	0	0	0	0	1	24	0	0	0	32	0	57	
5:40 PM	0	0	0	0	0	0	0	0	0	2	20	0	0	0	17	1	40	
5:45 PM	0	0	0	0	0	0	0	0	0	0	20	0	0	0	22	0	42	
5:50 PM	0	0	0	1	0	0	0	0	0	0	22	0	0	0	21	0	44	
5:55 PM	0	0	0	0	0	0	0	0	0	0	21	0	0	0	8	1	30	
Count Total	0	3	0	13	0	0	0	0	0	24	514	0	0	0	474	10	1,038	
Peak Hour	0	2	0	6	0	0	0	0	0	18	288	0	0	0	240	5	559	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	1	1	4:00 PM						4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM						4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM						4:10 PM	0	0	0	0	0
4:15 PM	0	1	0	1	2	4:15 PM						4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM						4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	1	1	4:25 PM						4:25 PM	1	0	0	0	1
4:30 PM	0	1	0	0	1	4:30 PM						4:30 PM	1	0	0	0	1
4:35 PM	0	0	0	0	0	4:35 PM						4:35 PM	2	0	0	0	2
4:40 PM	0	0	0	0	0	4:40 PM						4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM						4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM						4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM						4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM						5:00 PM	1	0	0	0	1
5:05 PM	0	0	0	1	1	5:05 PM						5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM						5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM						5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM						5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM						5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM						5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM						5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM						5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM						5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM						5:50 PM	0	0	0	0	0
5:55 PM	0	1	0	0	1	5:55 PM						5:55 PM	0	0	0	0	0
Count Total	0	3	0	6	9	Count Total						Count Total	5	0	0	0	5
Peak Hour	0	0	0	3	3	Peak Hour						Peak Hour	1	0	0	0	1



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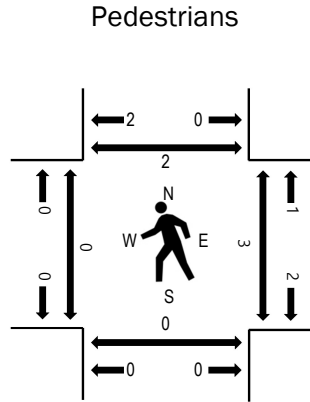
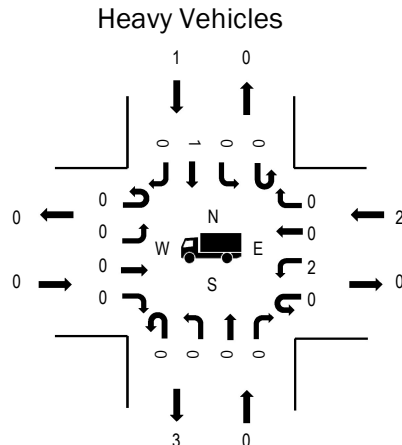
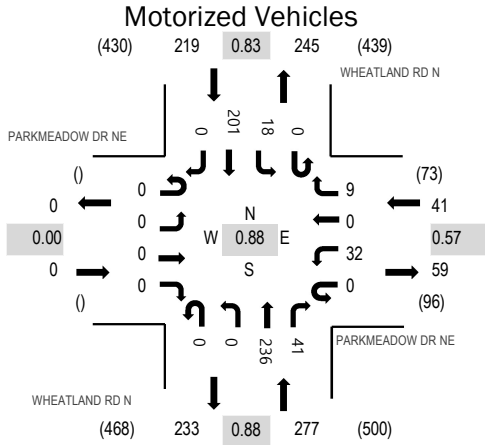
Location: 4 WHEATLAND RD N & PARKMEADOW DR NE PM

Date: Tuesday, September 29, 2020

Peak Hour: 04:55 PM - 05:55 PM

Peak 15-Minutes: 05:25 PM - 05:40 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	4.9%	0.57
NB	0.0%	0.88
SB	0.5%	0.83
All	0.6%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	PARKMEADOW DR NE Eastbound				PARKMEADOW DR NE Westbound				WHEATLAND RD N Northbound				WHEATLAND RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	3	0	0	0	0	10	2	0	1	17	0	33	469
4:05 PM	0	0	0	0	0	4	0	0	0	0	19	4	0	0	22	0	49	487
4:10 PM	0	0	0	0	0	3	0	1	0	0	12	4	0	1	17	0	38	473
4:15 PM	0	0	0	0	0	1	0	0	0	0	18	1	0	0	15	0	35	485
4:20 PM	0	0	0	0	0	3	0	0	0	0	17	5	0	0	17	0	42	494
4:25 PM	0	0	0	0	0	1	0	0	0	0	9	2	0	1	17	0	30	494
4:30 PM	0	0	0	0	0	3	0	1	0	0	21	4	0	0	23	0	52	506
4:35 PM	0	0	0	0	0	4	0	0	0	0	15	1	0	1	18	0	39	513
4:40 PM	0	0	0	0	0	1	0	0	0	0	20	3	0	0	16	0	40	526
4:45 PM	0	0	0	0	0	4	0	0	0	0	19	2	0	0	17	0	42	521
4:50 PM	0	0	0	0	0	0	0	1	0	0	12	3	0	0	14	0	30	523
4:55 PM	0	0	0	0	0	1	0	1	0	0	18	6	0	0	13	0	39	537
5:00 PM	0	0	0	0	0	5	0	0	0	0	19	5	0	3	19	0	51	534
5:05 PM	0	0	0	0	0	3	0	0	0	0	15	0	0	1	16	0	35	
5:10 PM	0	0	0	0	0	1	0	0	0	0	23	5	0	3	18	0	50	
5:15 PM	0	0	0	0	0	0	0	1	0	0	24	3	0	2	14	0	44	
5:20 PM	0	0	0	0	0	1	0	0	0	0	22	2	0	2	15	0	42	
5:25 PM	0	0	0	0	0	2	0	1	0	0	23	2	0	0	14	0	42	
5:30 PM	0	0	0	0	0	4	0	0	0	0	20	6	0	1	28	0	59	
5:35 PM	0	0	0	0	0	7	0	2	0	0	17	3	0	2	21	0	52	
5:40 PM	0	0	0	0	0	3	0	0	0	0	14	6	0	0	12	0	35	
5:45 PM	0	0	0	0	0	3	0	3	0	0	20	1	0	1	16	0	44	
5:50 PM	0	0	0	0	0	2	0	1	0	0	21	2	0	3	15	0	44	
5:55 PM	0	0	0	0	0	1	0	1	0	0	18	2	0	0	14	0	36	
Count Total	0	0	0	0	0	60	0	13	0	0	426	74	0	22	408	0	1,003	
Peak Hour	0	0	0	0	0	32	0	9	0	0	236	41	0	18	201	0	537	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM						4:00 PM	0	0	1	0	1
4:05 PM	0	0	0	0	0	4:05 PM						4:05 PM	0	0	1	0	1
4:10 PM	0	0	0	0	0	4:10 PM						4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM						4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM						4:20 PM	0	0	0	0	0
4:25 PM	0	0	1	0	1	4:25 PM						4:25 PM	0	3	2	0	5
4:30 PM	0	0	0	0	0	4:30 PM						4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM						4:35 PM	0	0	0	2	2
4:40 PM	0	0	0	0	0	4:40 PM						4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM						4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM						4:50 PM	0	0	1	0	1
4:55 PM	0	0	0	0	0	4:55 PM						4:55 PM	0	0	0	2	2
5:00 PM	0	0	1	0	1	5:00 PM						5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM						5:05 PM	0	0	1	0	1
5:10 PM	0	0	0	0	0	5:10 PM						5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM						5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM						5:20 PM	0	0	0	0	0
5:25 PM	0	0	1	0	1	5:25 PM						5:25 PM	0	0	2	0	2
5:30 PM	0	0	0	0	0	5:30 PM						5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM						5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM						5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM						5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM						5:50 PM	0	0	0	0	0
5:55 PM	0	0	1	0	1	5:55 PM						5:55 PM	0	0	1	2	3
Count Total	0	0	4	1	5	Count Total						Count Total	0	3	9	6	18
Peak Hour	0	0	2	1	3	Peak Hour						Peak Hour	0	0	3	2	5



ALL TRAFFIC DATA SERVICES

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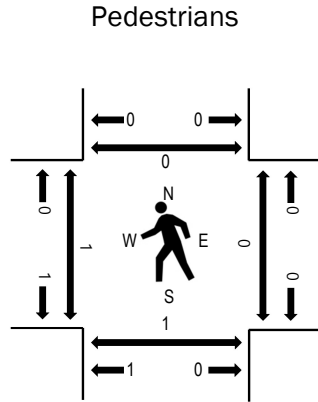
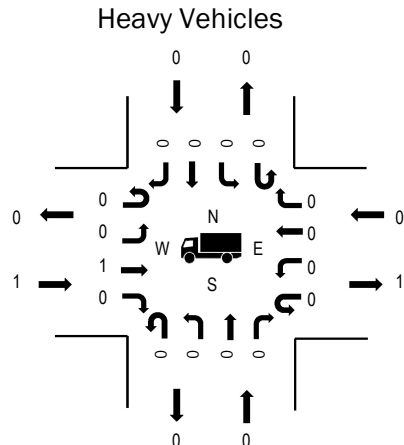
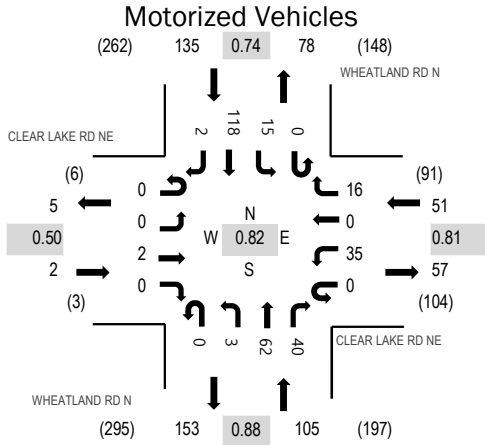
Location: 5 WHEATLAND RD N & CLEAR LAKE RD NE PM

Date: Tuesday, September 29, 2020

Peak Hour: 04:55 PM - 05:55 PM

Peak 15-Minutes: 05:25 PM - 05:40 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	50.0%	0.50
WB	0.0%	0.81
NB	0.0%	0.88
SB	0.0%	0.74
All	0.3%	0.82

Traffic Counts - Motorized Vehicles

Interval Start Time	CLEAR LAKE RD NE Eastbound				CLEAR LAKE RD NE Westbound				WHEATLAND RD N Northbound				WHEATLAND RD N Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	4	0	0	0	0	2	0	0	0	12	0	18	263
4:05 PM	0	0	0	0	0	3	0	0	0	0	6	3	0	1	14	0	27	261
4:10 PM	0	0	0	0	0	3	0	0	0	0	3	3	0	0	8	0	17	253
4:15 PM	0	0	0	0	0	3	0	2	0	0	6	3	0	1	9	0	24	264
4:20 PM	0	0	0	0	0	6	0	2	0	0	5	4	0	1	12	0	30	267
4:25 PM	0	0	0	0	0	1	0	0	0	0	5	5	0	1	8	0	20	257
4:30 PM	0	0	0	0	0	3	0	0	0	0	5	2	0	1	6	0	17	267
4:35 PM	0	0	1	0	0	2	0	1	0	1	3	5	0	2	10	0	25	276
4:40 PM	0	0	0	0	0	1	0	1	0	0	7	3	0	4	11	0	27	284
4:45 PM	0	0	0	0	0	1	0	1	0	0	4	3	0	2	9	0	20	279
4:50 PM	0	0	0	0	0	0	0	2	0	0	7	2	0	0	5	0	16	289
4:55 PM	0	0	1	0	0	4	0	1	0	0	3	5	0	2	6	0	22	293
5:00 PM	0	0	0	0	0	5	0	0	0	0	4	1	0	0	6	0	16	290
5:05 PM	0	0	0	0	0	3	0	2	0	1	1	2	0	1	9	0	19	
5:10 PM	0	0	0	0	0	4	0	1	0	0	9	4	0	1	9	0	28	
5:15 PM	0	0	0	0	0	3	0	1	0	0	4	8	0	2	9	0	27	
5:20 PM	0	0	0	0	0	3	0	2	0	0	4	0	0	3	8	0	20	
5:25 PM	0	0	0	0	0	1	0	1	0	2	9	1	0	0	16	0	30	
5:30 PM	0	0	0	0	0	2	0	2	0	0	2	3	0	4	13	0	26	
5:35 PM	0	0	0	0	0	3	0	5	0	0	6	6	0	0	11	2	33	
5:40 PM	0	0	1	0	0	3	0	1	0	0	4	1	0	1	11	0	22	
5:45 PM	0	0	0	0	0	3	0	0	0	0	6	7	0	1	13	0	30	
5:50 PM	0	0	0	0	0	1	0	0	0	0	10	2	0	0	7	0	20	
5:55 PM	0	0	0	0	0	1	0	3	0	0	5	0	0	0	10	0	19	
Count Total	0	0	3	0	0	63	0	28	0	4	120	73	0	28	232	2	553	
Peak Hour	0	0	2	0	0	35	0	16	0	3	62	40	0	15	118	2	293	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM						4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM						4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM						4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM						4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM						4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM						4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM						4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM						4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM						4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM						4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM						4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM						4:55 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0	5:00 PM						5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM						5:05 PM	0	1	0	0	1
5:10 PM	0	0	0	0	0	5:10 PM						5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM						5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM						5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM						5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM						5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM						5:35 PM	0	0	0	0	0
5:40 PM	1	0	0	0	1	5:40 PM						5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM						5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM						5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM						5:55 PM	0	0	0	0	0
Count Total	1	0	0	0	1	Count Total						Count Total	1	1	0	0	2
Peak Hour	1	0	0	0	1	Peak Hour						Peak Hour	1	1	0	0	2

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Date Start: 29-Sep-20
Date End: 29-Sep-20
Wheatland Rd N S-O Cater Dr NE
Site Code: 1

NB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
09/29/20	0	0	0	0	1	1	3	0	1	0	0	0	0	0	6	36-45	4
01:00	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3	14-23	1
02:00	0	0	1	1	1	1	3	1	1	0	0	0	0	0	9	41-50	4
03:00	0	1	1	0	1	4	7	2	0	0	0	0	0	0	16	36-45	11
04:00	0	0	0	0	2	8	17	13	4	3	0	0	0	0	47	41-50	30
05:00	1	0	3	2	5	19	37	21	4	1	0	0	1	0	94	41-50	58
06:00	2	0	5	1	5	29	41	14	1	0	0	0	0	0	98	36-45	70
07:00	1	0	5	6	2	20	54	19	4	0	0	0	0	0	111	36-45	74
08:00	2	0	5	6	13	24	44	19	2	1	0	0	0	0	116	36-45	68
09:00	3	1	8	15	13	17	31	13	1	0	0	0	0	0	102	36-45	48
10:00	3	2	24	42	37	16	18	3	1	1	0	0	0	0	147	26-35	79
11:00	3	5	17	37	28	31	21	4	0	0	0	0	0	0	146	26-35	65
12 PM	3	5	7	21	14	42	40	10	2	1	0	0	0	0	145	36-45	82
13:00	6	2	3	11	11	44	55	23	6	1	1	0	0	0	163	36-45	99
14:00	2	1	9	15	4	46	52	22	3	0	0	0	0	0	154	36-45	98
15:00	11	0	15	6	7	62	67	15	3	0	0	0	0	0	186	36-45	129
16:00	6	4	22	18	12	46	84	33	5	1	0	0	0	0	231	36-45	130
17:00	1	2	16	8	9	29	65	22	6	0	0	0	1	0	159	36-45	94
18:00	1	1	14	7	8	38	38	14	2	1	0	0	0	0	124	36-45	76
19:00	1	0	5	2	5	16	33	13	5	0	0	0	0	0	80	36-45	49
20:00	1	0	5	2	6	16	20	15	2	0	0	0	0	0	67	36-45	36
21:00	0	0	6	1	6	6	5	7	2	1	0	0	0	0	34	31-40	12
22:00	0	0	0	0	1	5	3	2	0	0	0	0	0	0	11	35-44	8
23:00	0	0	0	0	0	1	4	0	0	0	0	0	0	0	5	36-45	5
Total	47	24	172	201	192	521	743	285	55	11	1	0	2	0	2254		
Percent	2.1%	1.1%	7.6%	8.9%	8.5%	23.1%	33.0%	12.6%	2.4%	0.5%	0.0%	0.0%	0.1%	0.0%			
AM Peak	09:00	11:00	10:00	10:00	10:00	11:00	07:00	05:00	04:00	04:00			05:00		10:00		
Vol.	3	5	24	42	37	31	54	21	4	3			1		147		
PM Peak	15:00	12:00	16:00	12:00	12:00	15:00	16:00	16:00	13:00	12:00	13:00		17:00		16:00		
Vol.	11	5	22	21	14	62	84	33	6	1	1		1		231		
Total	47	24	172	201	192	521	743	285	55	11	1	0	2	0	2254		
Percent	2.1%	1.1%	7.6%	8.9%	8.5%	23.1%	33.0%	12.6%	2.4%	0.5%	0.0%	0.0%	0.1%	0.0%			

15th Percentile : 27 MPH
50th Percentile : 39 MPH
85th Percentile : 45 MPH
95th Percentile : 49 MPH

Stats
10 MPH Pace Speed : 36-45 MPH
Number in Pace : 1264
Percent in Pace : 56.1%
Number of Vehicles > 55 MPH : 14
Percent of Vehicles > 55 MPH : 0.6%
Mean Speed(Average) : 38 MPH

All Traffic Data Services, Inc.
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Date Start: 29-Sep-20
Date End: 29-Sep-20
Wheatland Rd N S-O Cater Dr NE
Site Code: 1

SB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
09/29/20	0	0	1	0	0	3	3	0	0	0	0	0	0	0	7	36-45	6
01:00	0	0	1	1	1	1	2	1	0	0	0	0	0	0	7	41-50	3
02:00	0	0	1	1	1	1	1	0	0	0	0	0	0	0	5	36-45	2
03:00	0	1	0	0	1	5	9	0	0	0	0	0	0	0	16	36-45	14
04:00	0	1	3	1	0	8	21	4	0	0	0	0	0	0	38	36-45	29
05:00	0	1	11	4	5	22	33	7	0	0	0	0	0	0	83	36-45	55
06:00	2	5	14	4	8	42	63	17	1	0	0	0	0	0	156	36-45	105
07:00	0	3	11	3	7	36	49	15	5	0	0	0	0	0	129	36-45	85
08:00	2	4	12	3	9	32	39	13	1	1	0	0	0	0	116	36-45	71
09:00	3	2	13	3	15	34	45	16	2	0	1	0	0	0	134	36-45	79
10:00	4	11	40	40	22	18	7	1	0	0	0	0	0	0	143	21-30	80
11:00	5	14	56	45	29	17	6	0	0	0	0	0	0	0	172	21-30	101
12 PM	2	5	10	14	30	44	32	2	1	0	0	0	0	0	140	36-45	76
13:00	4	2	10	4	13	66	58	17	6	1	0	0	0	0	181	36-45	124
14:00	6	2	6	9	16	59	81	23	1	0	0	0	0	0	203	36-45	140
15:00	7	1	13	7	14	69	73	22	1	0	0	0	0	0	207	36-45	142
16:00	5	6	16	7	14	69	72	22	3	0	0	0	0	0	214	36-45	141
17:00	1	0	8	4	10	55	57	13	2	1	0	0	0	0	151	36-45	112
18:00	8	2	5	6	20	35	20	8	2	1	0	0	0	0	107	36-45	55
19:00	2	1	8	2	9	30	30	4	0	0	0	0	0	0	86	36-45	60
20:00	0	0	2	2	5	12	13	6	0	0	0	0	0	0	40	36-45	25
21:00	0	0	2	2	4	6	10	3	1	0	0	0	0	0	28	36-45	16
22:00	0	0	0	0	2	6	6	1	0	0	0	0	0	0	15	36-45	12
23:00	0	0	1	0	0	4	5	0	0	0	0	0	0	0	10	36-45	9
Total	51	61	244	162	235	674	735	195	26	4	1	0	0	0	2388		
Percent	2.1%	2.6%	10.2%	6.8%	9.8%	28.2%	30.8%	8.2%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	11:00	11:00	11:00	06:00	06:00	06:00	07:00	08:00	09:00				11:00		
Vol.	5	14	56	45	29	42	63	17	5	1	1				172		
PM Peak	18:00	16:00	16:00	12:00	12:00	15:00	14:00	14:00	13:00	13:00					16:00		
Vol.	8	6	16	14	30	69	81	23	6	1					214		
Total	51	61	244	162	235	674	735	195	26	4	1	0	0	0	2388		
Percent	2.1%	2.6%	10.2%	6.8%	9.8%	28.2%	30.8%	8.2%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 25 MPH
50th Percentile : 38 MPH
85th Percentile : 44 MPH
95th Percentile : 47 MPH

Stats
10 MPH Pace Speed : 36-45 MPH
Number in Pace : 1409
Percent in Pace : 59.0%
Number of Vehicles > 55 MPH : 5
Percent of Vehicles > 55 MPH : 0.2%
Mean Speed(Average) : 37 MPH

All Traffic Data Services, Inc.
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Date Start: 29-Sep-20
Date End: 29-Sep-20
Wheatland Rd N S-O Cater Dr NE
Site Code: 1

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/29/20	0	5	0	0	1	0	0	0	0	0	0	0	0	0	6
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	6	2	0	1	0	0	0	0	0	0	0	0	0	9
03:00	0	10	5	0	1	0	0	0	0	0	0	0	0	0	16
04:00	2	23	9	0	13	0	0	0	0	0	0	0	0	0	47
05:00	1	56	18	0	18	0	0	0	0	0	0	0	0	1	94
06:00	0	49	28	2	14	0	0	2	0	1	0	0	0	2	98
07:00	0	63	29	1	15	1	0	0	0	1	0	0	0	1	111
08:00	0	54	29	1	27	1	0	1	0	1	0	0	0	2	116
09:00	1	60	19	3	14	2	0	0	0	2	0	0	0	1	102
10:00	1	89	40	1	13	0	0	1	0	0	0	0	0	2	147
11:00	2	91	29	0	18	0	0	2	0	1	0	0	0	3	146
12 PM	6	83	32	2	13	0	0	3	0	3	0	0	0	3	145
13:00	1	92	37	0	22	0	1	3	0	1	0	0	0	6	163
14:00	0	91	38	0	22	0	0	1	0	0	0	0	0	2	154
15:00	1	125	31	0	16	0	0	2	0	0	0	0	0	11	186
16:00	1	129	66	0	28	0	0	1	0	0	0	0	0	6	231
17:00	2	102	34	0	19	0	0	1	0	0	0	0	0	1	159
18:00	4	78	31	0	10	0	0	0	0	0	0	0	0	1	124
19:00	0	55	16	0	6	0	0	2	0	0	0	0	0	1	80
20:00	0	49	13	0	4	0	0	0	0	0	0	0	0	1	67
21:00	0	27	4	0	3	0	0	0	0	0	0	0	0	0	34
22:00	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
23:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
Total	22	1353	513	10	278	4	1	19	0	10	0	0	0	44	2254
Percent	1.0%	60.0%	22.8%	0.4%	12.3%	0.2%	0.0%	0.8%	0.0%	0.4%	0.0%	0.0%	0.0%	2.0%	
AM Peak	04:00	11:00	10:00	09:00	08:00	09:00		06:00		09:00				11:00	
Vol.	2	91	40	3	27	2		2		2				3	
PM Peak	12:00	16:00	16:00	12:00	16:00		13:00	12:00		12:00				15:00	
Vol.	6	129	66	2	28		1	3		3				11	
Grand Total	22	1353	513	10	278	4	1	19	0	10	0	0	0	44	2254
Percent	1.0%	60.0%	22.8%	0.4%	12.3%	0.2%	0.0%	0.8%	0.0%	0.4%	0.0%	0.0%	0.0%	2.0%	

All Traffic Data Services, Inc.
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Date Start: 29-Sep-20
Date End: 29-Sep-20
Wheatland Rd N S-O Cater Dr NE
Site Code: 1

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/29/20	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
01:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	9	3	0	2	0	0	0	1	1	0	0	0	0	16
04:00	0	26	5	0	6	0	0	0	0	1	0	0	0	0	38
05:00	1	50	21	0	9	1	0	1	0	0	0	0	0	0	83
06:00	1	101	31	1	18	0	0	2	0	0	0	0	0	2	156
07:00	0	96	23	0	8	0	0	1	1	0	0	0	0	0	129
08:00	0	76	29	0	8	1	0	0	0	0	0	0	0	2	116
09:00	4	81	28	0	16	0	0	2	0	0	0	0	0	3	134
10:00	2	101	22	3	11	0	0	1	0	0	0	0	0	3	143
11:00	5	118	32	1	7	3	1	1	1	0	0	0	0	3	172
12 PM	2	98	30	0	6	0	0	3	0	0	0	0	0	1	140
13:00	3	107	42	2	21	0	0	0	0	2	0	0	0	4	181
14:00	5	129	43	2	16	0	0	3	0	0	0	0	0	5	203
15:00	7	136	47	0	12	1	0	0	0	0	0	0	0	4	207
16:00	9	145	38	0	16	0	0	1	0	0	0	0	0	5	214
17:00	2	98	32	0	18	0	0	0	0	0	0	0	0	1	151
18:00	2	77	15	0	6	0	0	1	0	0	0	0	0	6	107
19:00	1	59	18	0	5	0	0	1	0	0	0	0	0	2	86
20:00	1	33	5	0	1	0	0	0	0	0	0	0	0	0	40
21:00	0	24	3	0	1	0	0	0	0	0	0	0	0	0	28
22:00	1	12	0	0	2	0	0	0	0	0	0	0	0	0	15
23:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
Total	46	1603	469	9	189	6	1	17	3	4	0	0	0	41	2388
Percent	1.9%	67.1%	19.6%	0.4%	7.9%	0.3%	0.0%	0.7%	0.1%	0.2%	0.0%	0.0%	0.0%	1.7%	
AM Peak	11:00	11:00	11:00	10:00	06:00	11:00	11:00	06:00	03:00	03:00				09:00	
Vol.	5	118	32	3	18	3	1	2	1	1				3	
PM Peak	16:00	16:00	15:00	13:00	13:00	15:00		12:00		13:00				18:00	
Vol.	9	145	47	2	21	1		3		2				6	
Grand Total	46	1603	469	9	189	6	1	17	3	4	0	0	0	41	2388
Percent	1.9%	67.1%	19.6%	0.4%	7.9%	0.3%	0.0%	0.7%	0.1%	0.2%	0.0%	0.0%	0.0%	1.7%	

All Traffic Data Services, Inc.
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Date Start: 29-Sep-20
Date End: 29-Sep-20
Wheatland Rd N N-O Laguna Dr NE
Site Code: 2

NB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
09/29/20	0	0	0	1	3	1	2	2	0	0	0	0	0	0	9	41-50	4
01:00	0	1	0	2	0	1	1	0	0	0	0	0	0	0	5	36-45	2
02:00	0	0	0	1	4	4	0	0	0	0	0	0	0	0	9	31-40	8
03:00	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	34-43	2
04:00	0	0	0	0	3	3	2	1	0	1	0	0	0	0	10	31-40	6
05:00	1	0	0	1	4	16	16	2	1	1	0	0	0	0	42	36-45	32
06:00	0	0	0	2	17	18	28	9	4	0	0	0	0	0	78	36-45	46
07:00	7	1	1	6	19	42	35	8	4	0	0	0	0	0	123	36-45	77
08:00	4	0	0	5	31	58	43	14	0	0	0	0	0	0	155	36-45	101
09:00	7	0	4	2	16	71	41	9	1	0	0	0	0	0	151	36-45	112
10:00	5	0	0	9	27	84	40	15	2	0	0	0	0	0	182	36-45	124
11:00	8	2	0	4	42	106	47	10	2	0	0	0	0	0	221	36-45	153
12 PM	7	1	0	6	47	88	66	16	1	0	0	0	0	0	232	36-45	154
13:00	8	0	2	15	41	78	64	14	3	1	0	0	0	0	226	36-45	142
14:00	7	1	1	4	41	112	54	11	0	0	0	0	0	0	231	36-45	166
15:00	13	1	3	18	50	114	58	18	5	0	0	0	0	0	280	36-45	172
16:00	16	2	1	18	54	190	71	8	0	0	0	0	0	0	360	36-45	261
17:00	16	0	0	17	93	185	81	7	0	0	0	0	0	0	399	31-40	278
18:00	5	0	3	21	78	127	68	9	1	0	0	0	0	0	312	31-40	205
19:00	5	1	2	10	66	113	31	6	0	0	0	0	0	0	234	31-40	179
20:00	3	0	1	13	34	73	35	12	3	0	1	0	0	0	175	36-45	108
21:00	0	0	0	0	20	42	29	5	0	0	0	0	0	0	96	36-45	71
22:00	0	0	0	3	12	23	11	5	2	0	1	0	0	0	57	31-40	35
23:00	0	0	0	3	6	13	8	1	0	0	0	0	0	0	31	35-44	21
Total	112	10	18	161	709	1562	833	182	29	3	2	0	0	0	3621		
Percent	3.1%	0.3%	0.5%	4.4%	19.6%	43.1%	23.0%	5.0%	0.8%	0.1%	0.1%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	09:00	10:00	11:00	11:00	11:00	10:00	06:00	04:00					11:00		
Vol.	8	2	4	9	42	106	47	15	4	1					221		
PM Peak	16:00	16:00	15:00	18:00	17:00	16:00	17:00	15:00	15:00	13:00	20:00				17:00		
Vol.	16	2	3	21	93	190	81	18	5	1	1				399		
Total	112	10	18	161	709	1562	833	182	29	3	2	0	0	0	3621		
Percent	3.1%	0.3%	0.5%	4.4%	19.6%	43.1%	23.0%	5.0%	0.8%	0.1%	0.1%	0.0%	0.0%	0.0%			

15th Percentile : 31 MPH
50th Percentile : 37 MPH
85th Percentile : 43 MPH
95th Percentile : 45 MPH

Stats
10 MPH Pace Speed : 36-45 MPH
Number in Pace : 2395
Percent in Pace : 66.1%
Number of Vehicles > 55 MPH : 5
Percent of Vehicles > 55 MPH : 0.1%
Mean Speed(Average) : 37 MPH

All Traffic Data Services, Inc.
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Date Start: 29-Sep-20
Date End: 29-Sep-20
Wheatland Rd N N-O Laguna Dr NE
Site Code: 2

SB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Pace Speed	Number in Pace
09/29/20	0	0	0	0	4	4	2	0	1	0	0	0	0	0	11	31-40	8
01:00	0	0	0	1	1	3	3	0	0	0	0	0	0	0	8	36-45	6
02:00	0	0	0	0	2	1	2	1	0	0	0	0	0	0	6	41-50	3
03:00	0	0	1	0	3	4	2	2	0	0	0	0	0	0	12	31-40	7
04:00	2	0	0	1	5	7	17	2	1	0	0	0	0	0	35	36-45	24
05:00	0	0	0	3	9	22	26	18	2	1	0	0	0	0	81	36-45	48
06:00	2	0	0	3	17	41	69	35	1	0	0	0	0	0	168	36-45	110
07:00	3	0	2	4	25	84	130	47	11	3	0	0	0	0	309	36-45	214
08:00	1	0	1	1	24	61	91	34	7	1	0	0	0	0	221	36-45	152
09:00	1	0	0	3	19	65	103	25	10	2	0	0	0	0	228	36-45	168
10:00	5	0	3	8	25	70	83	39	4	1	0	0	0	0	238	36-45	153
11:00	10	2	5	11	27	91	70	13	1	0	0	0	0	0	230	36-45	161
12 PM	6	1	2	8	42	80	81	31	6	0	0	0	0	0	257	36-45	161
13:00	8	0	0	6	23	74	89	30	4	1	0	0	0	0	235	36-45	163
14:00	6	0	1	9	28	83	98	31	2	1	0	0	0	0	259	36-45	181
15:00	9	0	0	11	28	74	120	43	4	0	0	0	0	0	289	36-45	194
16:00	13	0	4	6	17	65	145	30	9	1	0	0	0	0	290	36-45	210
17:00	12	1	0	5	28	98	121	34	4	0	0	0	0	0	303	36-45	219
18:00	6	0	0	10	17	74	103	20	2	0	1	0	0	0	233	36-45	177
19:00	4	1	4	4	16	77	39	11	3	1	0	0	0	0	160	36-45	116
20:00	1	0	0	4	20	44	28	14	1	1	0	0	0	0	113	36-45	72
21:00	0	0	0	3	7	21	16	7	2	0	0	0	0	0	56	36-45	37
22:00	0	0	0	1	4	10	9	8	2	0	0	0	0	0	34	36-45	19
23:00	0	0	0	0	3	6	9	4	0	0	0	0	0	0	22	36-45	15
Total	89	5	23	102	394	1159	1456	479	77	13	1	0	0	0	3798		
Percent	2.3%	0.1%	0.6%	2.7%	10.4%	30.5%	38.3%	12.6%	2.0%	0.3%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	11:00	11:00	11:00	11:00	07:00	07:00	07:00	07:00					07:00		
Vol.	10	2	5	11	27	91	130	47	11	3					309		
PM Peak	16:00	12:00	16:00	15:00	12:00	17:00	16:00	15:00	16:00	13:00	18:00				17:00		
Vol.	13	1	4	11	42	98	145	43	9	1	1				303		
Total	89	5	23	102	394	1159	1456	479	77	13	1	0	0	0	3798		
Percent	2.3%	0.1%	0.6%	2.7%	10.4%	30.5%	38.3%	12.6%	2.0%	0.3%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 34 MPH
50th Percentile : 40 MPH
85th Percentile : 45 MPH
95th Percentile : 48 MPH

Stats
10 MPH Pace Speed : 36-45 MPH
Number in Pace : 2615
Percent in Pace : 68.9%
Number of Vehicles > 55 MPH : 14
Percent of Vehicles > 55 MPH : 0.4%
Mean Speed(Average) : 40 MPH

All Traffic Data Services, Inc.
alltrafficdata.net

Date Start: 29-Sep-20
Date End: 29-Sep-20
Wheatland Rd N N-O Laguna Dr NE
Site Code: 2

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/29/20	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
03:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	8	0	0	2	0	0	0	0	0	0	0	0	0	10
05:00	1	26	9	0	5	0	0	0	0	0	0	0	0	1	42
06:00	1	49	20	0	8	0	0	0	0	0	0	0	0	0	78
07:00	0	50	39	2	20	1	0	3	0	1	0	0	0	7	123
08:00	0	103	28	0	18	1	0	0	0	1	0	0	0	4	155
09:00	2	76	36	3	22	0	1	2	1	2	0	0	0	6	151
10:00	1	111	36	1	24	2	0	1	0	1	0	0	0	5	182
11:00	1	145	47	1	18	0	0	2	0	0	0	0	0	7	221
12 PM	3	148	51	0	20	0	0	1	1	1	0	0	0	7	232
13:00	6	129	50	1	25	1	0	6	0	2	0	0	0	6	226
14:00	1	157	43	0	19	0	1	2	1	1	0	0	0	6	231
15:00	2	172	59	0	32	0	0	2	0	0	0	0	0	13	280
16:00	1	260	65	1	16	0	0	1	0	0	0	0	0	16	360
17:00	3	286	70	0	25	0	0	0	0	0	0	0	0	15	399
18:00	1	216	70	0	19	0	0	1	0	0	0	0	0	5	312
19:00	4	160	53	0	12	0	0	0	0	0	0	0	0	5	234
20:00	0	127	40	0	3	0	0	2	0	0	0	0	0	3	175
21:00	0	68	21	0	7	0	0	0	0	0	0	0	0	0	96
22:00	0	47	9	0	1	0	0	0	0	0	0	0	0	0	57
23:00	0	23	6	0	2	0	0	0	0	0	0	0	0	0	31
Total	27	2382	757	9	298	5	2	23	3	9	0	0	0	106	3621
Percent	0.7%	65.8%	20.9%	0.2%	8.2%	0.1%	0.1%	0.6%	0.1%	0.2%	0.0%	0.0%	0.0%	2.9%	
AM Peak	09:00	11:00	11:00	09:00	10:00	10:00	09:00	07:00	09:00	09:00				07:00	
Vol.	2	145	47	3	24	2	1	3	1	2				7	
PM Peak	13:00	17:00	17:00	13:00	15:00	13:00	14:00	13:00	12:00	13:00				16:00	
Vol.	6	286	70	1	32	1	1	6	1	2				16	
Grand Total	27	2382	757	9	298	5	2	23	3	9	0	0	0	106	3621
Percent	0.7%	65.8%	20.9%	0.2%	8.2%	0.1%	0.1%	0.6%	0.1%	0.2%	0.0%	0.0%	0.0%	2.9%	

All Traffic Data Services, Inc.
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Date Start: 29-Sep-20
Date End: 29-Sep-20
Wheatland Rd N N-O Laguna Dr NE
Site Code: 2






















SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
09/29/20	0	7	4	0	0	0	0	0	0	0	0	0	0	0	11
01:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
02:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	8	3	0	1	0	0	0	0	0	0	0	0	0	12
04:00	0	24	4	0	5	0	0	0	1	1	0	0	0	0	35
05:00	1	42	20	1	16	0	0	0	0	1	0	0	0	0	81
06:00	2	88	52	2	21	0	0	1	0	0	0	0	0	2	168
07:00	1	168	84	2	48	0	0	3	0	0	0	0	0	3	309
08:00	0	151	39	4	24	1	0	0	1	0	0	0	0	1	221
09:00	1	140	59	5	21	0	0	1	0	0	0	0	0	1	228
10:00	2	137	62	3	26	1	0	1	1	0	0	0	0	5	238
11:00	2	136	61	3	14	1	0	3	1	0	0	0	0	9	230
12 PM	0	156	67	3	24	1	0	0	0	0	0	0	0	6	257
13:00	5	132	63	2	20	0	2	3	0	0	0	0	0	8	235
14:00	3	150	55	4	35	2	0	3	0	1	0	0	0	6	259
15:00	3	188	59	4	22	0	0	4	0	0	0	0	0	9	289
16:00	5	173	74	2	21	0	0	2	0	0	0	0	0	13	290
17:00	6	194	54	3	33	0	0	2	0	0	0	0	0	11	303
18:00	2	147	50	0	28	0	0	0	0	0	0	0	0	6	233
19:00	4	106	34	1	11	0	0	1	0	0	0	0	0	3	160
20:00	0	65	39	2	6	0	0	0	0	0	0	0	0	1	113
21:00	1	41	10	1	3	0	0	0	0	0	0	0	0	0	56
22:00	0	31	3	0	0	0	0	0	0	0	0	0	0	0	34
23:00	1	12	7	0	2	0	0	0	0	0	0	0	0	0	22
Total	39	2308	905	42	381	6	2	24	4	3	0	0	0	84	3798
Percent	1.0%	60.8%	23.8%	1.1%	10.0%	0.2%	0.1%	0.6%	0.1%	0.1%	0.0%	0.0%	0.0%	2.2%	
AM Peak	06:00	07:00	07:00	09:00	07:00	08:00		07:00	04:00	04:00				11:00	
Vol.	2	168	84	5	48	1		3	1	1				9	
PM Peak	17:00	17:00	16:00	14:00	14:00	14:00	13:00	15:00		14:00				16:00	
Vol.	6	194	74	4	35	2	2	4		1				13	
Grand Total	39	2308	905	42	381	6	2	24	4	3	0	0	0	84	3798
Percent	1.0%	60.8%	23.8%	1.1%	10.0%	0.2%	0.1%	0.6%	0.1%	0.1%	0.0%	0.0%	0.0%	2.2%	

APPENDIX B: HCM REPORTS – EXISTING 2020

HCM 6th Signalized Intersection Summary
1: River Rd & Wheatland Rd/Springwood Dr

Wheatland Road Multimodal Corridor Plan
Existing 2020 - AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	5	350	10	5	10	175	310	5	5	480	10
Future Volume (veh/h)	10	5	350	10	5	10	175	310	5	5	480	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1841	1900	1900	1900	1841	1856	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	5	0	11	5	0	190	337	4	5	522	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	4	0	0	0	4	3	0	0	0	0
Cap, veh/h	51	23	202	54	25	0	689	2623	31	774	2476	47
Arrive On Green	0.02	0.04	0.00	0.02	0.04	0.00	0.06	0.74	0.70	0.00	0.68	0.65
Sat Flow, veh/h	1263	574	2745	1263	574	0	1753	3568	42	1810	3621	69
Grp Volume(v), veh/h	16	0	0	16	0	0	190	166	175	5	260	272
Grp Sat Flow(s),veh/h/ln	1837	0	1373	1837	0	0	1753	1763	1848	1810	1805	1886
Q Serve(g_s), s	0.8	0.0	0.0	0.8	0.0	0.0	3.0	2.5	2.5	0.1	4.8	4.8
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.8	0.0	0.0	3.0	2.5	2.5	0.1	4.8	4.8
Prop In Lane	0.69		1.00	0.69		0.00	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	74	0	202	78	0	0	689	1296	1358	774	1234	1289
V/C Ratio(X)	0.21	0.00	0.00	0.20	0.00	0.00	0.28	0.13	0.13	0.01	0.21	0.21
Avail Cap(c_a), veh/h	143	0	304	408	0	0	865	1296	1358	887	1234	1289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	0.0	0.0	42.3	0.0	0.0	4.1	3.5	3.5	5.4	5.3	5.3
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.5	0.0	0.0	0.1	0.2	0.2	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.4	0.0	0.0	0.7	0.7	0.7	0.0	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.0	0.0	42.7	0.0	0.0	4.1	3.7	3.7	5.4	5.6	5.7
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		16			16			531			537	
Approach Delay, s/veh		43.0			42.7			3.9			5.6	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.4	70.2		7.8	9.0	65.5		7.6				
Change Period (Y+Rc), s	4.0	7.0		6.0	4.0	7.0		6.0				
Max Green Setting (Gmax), s	6.0	38.0		18.0	14.0	30.0		5.0				
Max Q Clear Time (g_c+I1), s	2.1	4.5		2.8	5.0	6.8		2.8				
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

Notes

User approved changes to right turn type.

Synchro ID	Control Type	Intersection	Control Type	LOS	Delay	V/C Ratio
	1 Signal	River Rd & Wheatland Rd/Springwood Dr	Signal	A	5.9	0.33

HCM 6th TWSC
2: Wheatland Rd & Russett Dr

Wheatland Road Multimodal Corridor Plan
Existing 2020 - AM Peak

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	60	15	135	270	5
Future Vol, veh/h	5	60	15	135	270	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	7	3	4	0
Mvmt Flow	5	64	16	144	287	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	467	291	293	0	0
Stage 1	291	-	-	-	-
Stage 2	176	-	-	-	-
Critical Hdwy	6.4	6.2	4.17	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.263	-	-
Pot Cap-1 Maneuver	558	753	1241	-	-
Stage 1	763	-	-	-	-
Stage 2	859	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	549	752	1240	-	-
Mov Cap-2 Maneuver	549	-	-	-	-
Stage 1	752	-	-	-	-
Stage 2	858	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1240	-	731	-	-
HCM Lane V/C Ratio	0.013	-	0.095	-	-
HCM Control Delay (s)	7.9	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

HCM 6th TWSC
3: Wheatland Rd & Aldridge Dr

Wheatland Road Multimodal Corridor Plan
Existing 2020 - AM Peak

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	5	15	5	130	215	5
Future Vol, veh/h	5	15	5	130	215	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	6	17	6	149	247	6




Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	412	251	254	0	0
Stage 1	251	-	-	-	-
Stage 2	161	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	600	793	1323	-	-
Stage 1	795	-	-	-	-
Stage 2	873	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	596	792	1322	-	-
Mov Cap-2 Maneuver	596	-	-	-	-
Stage 1	790	-	-	-	-
Stage 2	872	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1322	-	732	-	-
HCM Lane V/C Ratio	0.004	-	0.031	-	-
HCM Control Delay (s)	7.7	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 6th TWSC
4: Wheatland Rd & Parkmeadow Dr

Wheatland Road Multimodal Corridor Plan
Existing 2020 - AM Peak

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	5	125	10	5	190
Future Vol, veh/h	30	5	125	10	5	190
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	12	0	3	0	0	5
Mvmt Flow	32	5	134	11	5	204

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	357	143	0	0	148
Stage 1	143	-	-	-	-
Stage 2	214	-	-	-	-
Critical Hdwy	6.52	6.2	-	-	4.1
Critical Hdwy Stg 1	5.52	-	-	-	-
Critical Hdwy Stg 2	5.52	-	-	-	-
Follow-up Hdwy	3.608	3.3	-	-	2.2
Pot Cap-1 Maneuver	622	910	-	-	1446
Stage 1	860	-	-	-	-
Stage 2	798	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	618	907	-	-	1442
Mov Cap-2 Maneuver	618	-	-	-	-
Stage 1	857	-	-	-	-
Stage 2	795	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	647	1442
HCM Lane V/C Ratio	-	-	0.058	0.004
HCM Control Delay (s)	-	-	10.9	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
5: Wheatland Rd & Clear Lake Rd

Wheatland Road Multimodal Corridor Plan
Existing 2020 - AM Peak

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	35	0	10	0	90	30	10	40	0
Future Vol, veh/h	0	0	0	35	0	10	0	90	30	10	40	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	6	0	0	0	4	7	10	14	0
Mvmt Flow	0	0	0	40	0	11	0	103	34	11	46	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	194	205	46	188	188	120	46	0	0	137	0	0
Stage 1	68	68	-	120	120	-	-	-	-	-	-	-
Stage 2	126	137	-	68	68	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.5	6.2	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4	3.3	2.2	-	-	2.29	-	-
Pot Cap-1 Maneuver	770	695	1029	764	710	937	1575	-	-	1399	-	-
Stage 1	947	842	-	875	800	-	-	-	-	-	-	-
Stage 2	883	787	-	932	842	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	756	689	1029	759	704	937	1575	-	-	1399	-	-
Mov Cap-2 Maneuver	756	689	-	759	704	-	-	-	-	-	-	-
Stage 1	947	835	-	875	800	-	-	-	-	-	-	-
Stage 2	872	787	-	925	835	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.9	0	1.5
HCM LOS	A	A		






















Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1575	-	-	-	792	1399	-	-
HCM Lane V/C Ratio	-	-	-	-	0.065	0.008	-	-
HCM Control Delay (s)	0	-	-	0	9.9	7.6	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

HCM 6th Signalized Intersection Summary

1: River Rd & Wheatland Rd/Springwood Dr

Wheatland Road Multimodal Corridor Plan

Existing 2020 - PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	335	15	5	5	530	735	15	10	575	15
Future Volume (veh/h)	5	5	335	15	5	5	530	735	15	10	575	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1781	1900	1900	1900	1885	1781	1900	1885	1900
Adj Flow Rate, veh/h	5	5	89	16	5	0	576	799	15	11	625	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	8	0	0	0	1	8	0	1	0
Cap, veh/h	68	68	610	77	24	0	701	2466	46	427	1871	42
Arrive On Green	0.05	0.07	0.05	0.03	0.06	0.00	0.17	0.69	0.65	0.01	0.52	0.49
Sat Flow, veh/h	927	927	2575	1394	436	0	1810	3595	67	1810	3581	80
Grp Volume(v), veh/h	10	0	89	21	0	0	576	398	416	11	312	327
Grp Sat Flow(s),veh/h/ln	1854	0	1288	1830	0	0	1810	1791	1871	1810	1791	1870
Q Serve(g_s), s	0.5	0.0	2.5	1.0	0.0	0.0	13.3	8.1	8.1	0.3	9.1	9.1
Cycle Q Clear(g_c), s	0.5	0.0	2.5	1.0	0.0	0.0	13.3	8.1	8.1	0.3	9.1	9.1
Prop In Lane	0.50		1.00	0.76		0.00	1.00		0.04	1.00		0.04
Lane Grp Cap(c), veh/h	136	0	610	101	0	0	701	1228	1283	427	935	977
V/C Ratio(X)	0.07	0.00	0.15	0.21	0.00	0.00	0.82	0.32	0.32	0.03	0.33	0.33
Avail Cap(c_a), veh/h	144	0	622	407	0	0	833	1228	1283	523	935	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	0.0	28.2	41.4	0.0	0.0	9.1	5.7	5.7	11.5	12.4	12.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	0.0	0.0	4.8	0.7	0.7	0.0	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.7	0.5	0.0	0.0	4.8	2.5	2.7	0.1	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	0.0	28.2	41.7	0.0	0.0	13.9	6.4	6.4	11.5	13.4	13.4
LnGrp LOS	D	A	C	D	A	A	B	A	A	B	B	B
Approach Vol, veh/h		99			21			1390			650	
Approach Delay, s/veh		29.4			41.7			9.5			13.4	
Approach LOS		C			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	65.7		9.0	19.4	51.0		10.6				
Change Period (Y+Rc), s	4.0	7.0		6.0	4.0	7.0		6.0				
Max Green Setting (Gmax), s	5.5	38.5		18.0	22.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	2.3	10.1		3.0	15.3	11.1		4.5				
Green Ext Time (p_c), s	0.0	0.9		0.0	0.1	0.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

User approved changes to right turn type.

Synchro ID	Control Type	Intersection	Control Type	LOS	Delay	V/C Ratio
	1 Signal	River Rd & Wheatland Rd/Springwood Dr	Signal	B	11.9	0.33

HCM 6th TWSC
2: Wheatland Rd & Russett Dr

Wheatland Road Multimodal Corridor Plan
Existing 2020 - PM Peak

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	5	50	75	405	295	15
Future Vol, veh/h	5	50	75	405	295	15
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	4	0	0	2	0
Mvmt Flow	5	53	80	431	314	16

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	914	323	331	0	0
Stage 1	323	-	-	-	-
Stage 2	591	-	-	-	-
Critical Hdwy	6.4	6.24	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.2	-	-
Pot Cap-1 Maneuver	306	713	1240	-	-
Stage 1	738	-	-	-	-
Stage 2	557	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	279	712	1239	-	-
Mov Cap-2 Maneuver	279	-	-	-	-
Stage 1	675	-	-	-	-
Stage 2	556	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1239	-	624	-	-
HCM Lane V/C Ratio	0.064	-	0.094	-	-
HCM Control Delay (s)	8.1	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

HCM 6th TWSC
3: Wheatland Rd & Aldridge Dr

Wheatland Road Multimodal Corridor Plan
Existing 2020 - PM Peak

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	5	20	320	265	5
Future Vol, veh/h	5	5	20	320	265	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	5	5	22	348	288	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	684	292	294	0	0
Stage 1	292	-	-	-	-
Stage 2	392	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	417	752	1279	-	-
Stage 1	762	-	-	-	-
Stage 2	687	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	407	751	1278	-	-
Mov Cap-2 Maneuver	407	-	-	-	-
Stage 1	745	-	-	-	-
Stage 2	686	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1278	-	528	-	-
HCM Lane V/C Ratio	0.017	-	0.021	-	-
HCM Control Delay (s)	7.9	0	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

HCM 6th TWSC
4: Wheatland Rd & Parkmeadow Dr

Wheatland Road Multimodal Corridor Plan
Existing 2020 - PM Peak

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	10	280	45	20	235
Future Vol, veh/h	35	10	280	45	20	235
Conflicting Peds, #/hr	0	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	6	0	0	0	0	0
Mvmt Flow	40	11	318	51	23	267
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	660	349	0	0	372	0
Stage 1	347	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Critical Hdwy	6.46	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	422	699	-	-	1198	-
Stage 1	707	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	411	696	-	-	1195	-
Mov Cap-2 Maneuver	411	-	-	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	715	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	14	0	0.6			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	452	1195		
HCM Lane V/C Ratio	-	-	0.113	0.019		
HCM Control Delay (s)	-	-	14	8.1		
HCM Lane LOS	-	-	B	A		
HCM 95th %tile Q(veh)	-	-	0.4	0.1		

HCM 6th TWSC
5: Wheatland Rd & Clear Lake Rd

Wheatland Road Multimodal Corridor Plan
Existing 2020 - PM Peak

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	50	0	15	0	65	45	15	145	0
Future Vol, veh/h	0	0	0	50	0	15	0	65	45	15	145	0
Conflicting Peds, #/hr	2	0	0	0	0	2	1	0	2	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	50	100	0	0	0	0	0	2	2	8	0	0
Mvmt Flow	0	0	0	56	0	17	0	73	51	17	163	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	307	324	164	298	299	103	164	0	0	126	0	0
Stage 1	198	198	-	101	101	-	-	-	-	-	-	-
Stage 2	109	126	-	197	198	-	-	-	-	-	-	-
Critical Hdwy	7.6	7.5	6.2	7.1	6.5	6.2	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	6.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.9	3.3	3.5	4	3.3	2.2	-	-	2.272	-	-
Pot Cap-1 Maneuver	561	463	886	658	616	957	1427	-	-	1424	-	-
Stage 1	705	586	-	910	815	-	-	-	-	-	-	-
Stage 2	792	637	-	809	741	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	544	456	885	650	606	953	1426	-	-	1421	-	-
Mov Cap-2 Maneuver	544	456	-	650	606	-	-	-	-	-	-	-
Stage 1	704	578	-	908	813	-	-	-	-	-	-	-
Stage 2	777	636	-	798	731	-	-	-	-	-	-	-





















Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		10.7		0		0.7	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1426	-	-	-	701	1421	-	-
HCM Lane V/C Ratio	-	-	-	-	0.104	0.012	-	-
HCM Control Delay (s)	0	-	-	0	10.7	7.6	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

APPENDIX C: HCM REPORTS – FUTURE 2044

HCM 6th Signalized Intersection Summary
1: River Rd & Wheatland Rd/Springwood Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	5	425	10	5	10	215	380	5	5	585	10
Future Volume (veh/h)	10	5	425	10	5	10	215	380	5	5	585	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1841	1900	1900	1900	1841	1856	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	5	1	11	5	0	234	413	4	5	636	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	4	0	0	0	4	3	0	0	0	0
Cap, veh/h	52	24	230	54	25	0	634	2626	25	717	2449	38
Arrive On Green	0.02	0.04	0.02	0.02	0.04	0.00	0.06	0.73	0.70	0.00	0.67	0.64
Sat Flow, veh/h	1263	574	2721	1263	574	0	1753	3577	35	1810	3636	57
Grp Volume(v), veh/h	16	0	1	16	0	0	234	203	214	5	316	330
Grp Sat Flow(s),veh/h/ln	1837	0	1360	1837	0	0	1753	1763	1849	1810	1805	1888
Q Serve(g_s), s	0.8	0.0	0.0	0.8	0.0	0.0	3.8	3.1	3.1	0.1	6.2	6.2
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.8	0.0	0.0	3.8	3.1	3.1	0.1	6.2	6.2
Prop In Lane	0.69		1.00	0.69		0.00	1.00		0.02	1.00		0.03
Lane Grp Cap(c), veh/h	76	0	230	78	0	0	634	1294	1358	717	1216	1272
V/C Ratio(X)	0.21	0.00	0.00	0.20	0.00	0.00	0.37	0.16	0.16	0.01	0.26	0.26
Avail Cap(c_a), veh/h	143	0	328	408	0	0	826	1294	1358	823	1216	1272
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	37.8	42.3	0.0	0.0	4.4	3.6	3.6	5.7	5.8	5.8
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.5	0.0	0.0	0.1	0.3	0.2	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.4	0.0	0.0	1.0	0.9	0.9	0.0	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.0	37.8	42.7	0.0	0.0	4.5	3.9	3.9	5.7	6.3	6.3
LnGrp LOS	D	A	D	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		17			16			651			651	
Approach Delay, s/veh		42.6			42.7			4.1			6.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.4	70.1		7.8	9.8	64.6		7.7				
Change Period (Y+Rc), s	4.0	7.0		6.0	4.0	7.0		6.0				
Max Green Setting (Gmax), s	5.6	38.4		18.0	15.7	28.3		5.0				
Max Q Clear Time (g_c+I1), s	2.1	5.1		2.8	5.8	8.2		2.8				
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Notes

User approved changes to right turn type.

Synchro ID	Control Type	Intersection	Control Type	LOS	Delay	V/C Ratio
	1 Signal	River Rd & Wheatland Rd/Springwood Dr	Signal	A	6.1	0.40




HCM 6th TWSC
2: Wheatland Rd & Russett Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	75	20	165	330	5
Future Vol, veh/h	5	75	20	165	330	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	7	3	4	0
Mvmt Flow	5	80	21	176	351	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	573	355	357	0	-	0
Stage 1	355	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.17	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.263	-	-	-
Pot Cap-1 Maneuver	484	693	1174	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	473	692	1173	-	-	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.1	0.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1173	-	673	-	-	
HCM Lane V/C Ratio	0.018	-	0.126	-	-	
HCM Control Delay (s)	8.1	0	11.1	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	

HCM 6th TWSC
3: Wheatland Rd & Aldridge Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	20	5	160	260	5
Future Vol, veh/h	5	20	5	160	260	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	6	22	6	178	289	6




Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	483	293	296	0	0
Stage 1	293	-	-	-	-
Stage 2	190	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	546	751	1277	-	-
Stage 1	762	-	-	-	-
Stage 2	847	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	542	750	1276	-	-
Mov Cap-2 Maneuver	542	-	-	-	-
Stage 1	757	-	-	-	-
Stage 2	846	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1276	-	697	-	-
HCM Lane V/C Ratio	0.004	-	0.04	-	-
HCM Control Delay (s)	7.8	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 6th TWSC
4: Wheatland Rd & Parkmeadow Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	5	155	10	5	230
Future Vol, veh/h	35	5	155	10	5	230
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	12	0	3	0	0	5
Mvmt Flow	38	5	167	11	5	247
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	433	176	0	0	181	0
Stage 1	176	-	-	-	-	-
Stage 2	257	-	-	-	-	-
Critical Hdwy	6.52	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	5.52	-	-	-	-	-
Follow-up Hdwy	3.608	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	561	872	-	-	1407	-
Stage 1	831	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	557	870	-	-	1403	-
Mov Cap-2 Maneuver	557	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.7	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	583	1403	-	
HCM Lane V/C Ratio	-	-	0.074	0.004	-	
HCM Control Delay (s)	-	-	11.7	7.6	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

HCM 6th TWSC
5: Wheatland Rd & Clear Lake Rd

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	45	0	10	0	110	35	10	50	0
Future Vol, veh/h	0	0	0	45	0	10	0	110	35	10	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	6	0	0	0	4	7	10	14	0
Mvmt Flow	0	0	0	50	0	11	0	122	39	11	56	0

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	225	239	56	220	220	142	56	0	0	161	0	0
Stage 1	78	78	-	142	142	-	-	-	-	-	-	-
Stage 2	147	161	-	78	78	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.5	6.2	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4	3.3	2.2	-	-	2.29	-	-
Pot Cap-1 Maneuver	735	666	1016	728	682	911	1562	-	-	1371	-	-
Stage 1	936	834	-	851	783	-	-	-	-	-	-	-
Stage 2	860	769	-	921	834	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	722	661	1016	724	677	911	1562	-	-	1371	-	-
Mov Cap-2 Maneuver	722	661	-	724	677	-	-	-	-	-	-	-
Stage 1	936	827	-	851	783	-	-	-	-	-	-	-
Stage 2	850	769	-	914	827	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	0		10.2			0			1.3		
HCM LOS	A		B								





















Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1562	-	-	-	752	1371	-	-
HCM Lane V/C Ratio	-	-	-	-	0.081	0.008	-	-
HCM Control Delay (s)	0	-	-	0	10.2	7.6	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

HCM 6th Signalized Intersection Summary

1: River Rd & Wheatland Rd/Springwood Dr

Wheatland Road Multimodal Corridor Plan

Future 2042 - PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	410	20	5	5	645	895	20	10	775	20
Future Volume (veh/h)	5	5	410	20	5	5	645	895	20	10	775	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1781	1900	1900	1900	1885	1781	1900	1885	1900
Adj Flow Rate, veh/h	5	5	193	22	5	0	701	973	21	11	842	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	8	0	0	0	1	8	0	1	0
Cap, veh/h	72	72	825	88	20	0	675	2425	52	329	1575	37
Arrive On Green	0.06	0.08	0.06	0.04	0.06	0.00	0.24	0.68	0.64	0.01	0.44	0.41
Sat Flow, veh/h	927	927	2575	1488	338	0	1810	3583	77	1810	3576	85
Grp Volume(v), veh/h	10	0	193	27	0	0	701	486	508	11	422	440
Grp Sat Flow(s),veh/h/ln	1854	0	1288	1826	0	0	1810	1791	1869	1810	1791	1870
Q Serve(g_s), s	0.5	0.0	5.0	1.3	0.0	0.0	22.0	10.8	10.9	0.3	15.5	15.5
Cycle Q Clear(g_c), s	0.5	0.0	5.0	1.3	0.0	0.0	22.0	10.8	10.9	0.3	15.5	15.5
Prop In Lane	0.50		1.00	0.81		0.00	1.00		0.04	1.00		0.05
Lane Grp Cap(c), veh/h	144	0	825	109	0	0	675	1212	1265	329	789	824
V/C Ratio(X)	0.07	0.00	0.23	0.25	0.00	0.00	1.04	0.40	0.40	0.03	0.53	0.53
Avail Cap(c_a), veh/h	144	0	825	406	0	0	675	1212	1265	425	789	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	23.8	41.2	0.0	0.0	17.7	6.4	6.5	15.5	18.4	18.5
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.4	0.0	0.0	44.9	1.0	0.9	0.0	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.5	0.6	0.0	0.0	15.9	3.5	3.6	0.1	6.7	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	0.0	23.9	41.6	0.0	0.0	62.6	7.4	7.4	15.5	21.0	21.0
LnGrp LOS	D	A	C	D	A	A	F	A	A	B	C	C
Approach Vol, veh/h		203			27			1695			873	
Approach Delay, s/veh		24.6			41.6			30.3			20.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	64.9		9.4	26.0	43.6		11.0				
Change Period (Y+Rc), s	4.0	7.0		6.0	4.0	7.0		6.0				
Max Green Setting (Gmax), s	5.5	38.5		18.0	22.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	2.3	12.9		3.3	24.0	17.5		7.0				
Green Ext Time (p_c), s	0.0	1.2		0.0	0.0	0.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			27.0									
HCM 6th LOS			C									
Notes												
User approved changes to right turn type.												

Synchro ID	Control Type	Intersection	Control Type	LOS	Delay	V/C Ratio
	1 Signal	River Rd & Wheatland Rd/Springwood Dr	Signal	C	27.0	0.44

HCM 6th TWSC
2: Wheatland Rd & Russett Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	60	90	495	360	20
Future Vol, veh/h	5	60	90	495	360	20
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	4	0	0	2	0
Mvmt Flow	5	64	96	527	383	21
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1114	395	405	0	0	
Stage 1	395	-	-	-	-	
Stage 2	719	-	-	-	-	
Critical Hdwy	6.4	6.24	4.1	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.336	2.2	-	-	
Pot Cap-1 Maneuver	232	650	1165	-	-	
Stage 1	685	-	-	-	-	
Stage 2	486	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	204	649	1164	-	-	
Mov Cap-2 Maneuver	204	-	-	-	-	
Stage 1	604	-	-	-	-	
Stage 2	486	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s	12.4	1.3		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1164	-	556	-	-	
HCM Lane V/C Ratio	0.082	-	0.124	-	-	
HCM Control Delay (s)	8.4	0	12.4	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-	

HCM 6th TWSC
3: Wheatland Rd & Aldridge Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	5	25	390	325	5
Future Vol, veh/h	5	5	25	390	325	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	5	5	27	424	353	5

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	835	357	359	0	-	0
Stage 1	357	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	340	692	1211	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	329	691	1210	-	-	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	627	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1210	-	446	-	-
HCM Lane V/C Ratio	0.022	-	0.024	-	-
HCM Control Delay (s)	8	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

HCM 6th TWSC
4: Wheatland Rd & Parkmeadow Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	45	10	340	55	25	285
Future Vol, veh/h	45	10	340	55	25	285
Conflicting Peds, #/hr	0	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	0	0	0	0	0
Mvmt Flow	50	11	378	61	28	317
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	785	414	0	0	442	0
Stage 1	412	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.46	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	356	643	-	-	1129	-
Stage 1	660	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	344	640	-	-	1126	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	16.4	0	0.7			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	376	1126		
HCM Lane V/C Ratio	-	-	0.163	0.025		
HCM Control Delay (s)	-	-	16.4	8.3		
HCM Lane LOS	-	-	C	A		
HCM 95th %tile Q(veh)	-	-	0.6	0.1		

HCM 6th TWSC
5: Wheatland Rd & Clear Lake Rd

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	60	0	20	0	80	55	20	175	0
Future Vol, veh/h	0	0	0	60	0	20	0	80	55	20	175	0
Conflicting Peds, #/hr	2	0	0	0	0	2	1	0	2	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	50	100	0	0	0	0	0	2	2	8	0	0
Mvmt Flow	0	0	0	67	0	22	0	89	61	22	194	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	372	391	195	360	361	124	195	0	0	152	0	0
Stage 1	239	239	-	122	122	-	-	-	-	-	-	-
Stage 2	133	152	-	238	239	-	-	-	-	-	-	-
Critical Hdwy	7.6	7.5	6.2	7.1	6.5	6.2	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	6.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.9	3.3	3.5	4	3.3	2.2	-	-	2.272	-	-
Pot Cap-1 Maneuver	506	420	851	599	569	932	1390	-	-	1393	-	-
Stage 1	669	559	-	887	799	-	-	-	-	-	-	-
Stage 2	768	618	-	770	711	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	486	411	850	589	557	928	1389	-	-	1390	-	-
Mov Cap-2 Maneuver	486	411	-	589	557	-	-	-	-	-	-	-
Stage 1	668	548	-	885	797	-	-	-	-	-	-	-
Stage 2	748	617	-	756	697	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		11.4			0			0.8			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1389	-	-	-	648	1390	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.137	0.016	-	-				
HCM Control Delay (s)	0	-	-	0	11.4	7.6	0	-				
HCM Lane LOS	A	-	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0	-	-				

APPENDIX D: CRASH DATA (2014 – 2018)

Distance from Intersection	Posted Speed	Rd Character Desc	Off Roadway Flag	Intersection Type Desc	Intersection Related Flag	Roundabout Flag	Driveway Related Flag	Number of Lanes	Number of Turning Legs	Median Type Desc
71	No Data	Straight Roadway	0	No Data	1	0	0	2	No Data	No median
142	35	Driveway or Alley	0	No Data	0	0	0	2	No Data	No median
0	35	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
65	No Data	Straight Roadway	0	No Data	1	0	0	2	No Data	No median
0	No Data	Intersection	0	CROSS	0	0	0	No Data	0	No Data
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
0	35	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
0	No Data	Intersection	1	3-LEG	0	0	0	No Data	0	No Data
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
0	40	Intersection	0	CROSS	0	0	0	No Data	0	No Data
36	No Data	Straight Roadway	0	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	0	No Data
332	No Data	Driveway or Alley	0	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	0	No Data
0	40	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	0	No Data
55	No Data	Straight Roadway	0	No Data	0	0	0	4	No Data	No median
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
240	No Data	Straight Roadway	1	No Data	0	0	0	2	No Data	No median
30	No Data	Driveway or Alley	0	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
0	No Data	Intersection	0	CROSS	0	0	0	No Data	1	No Data
148	No Data	Driveway or Alley	0	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	CROSS	0	0	0	No Data	0	No Data
0	No Data	Intersection	0	CROSS	0	0	0	No Data	0	No Data
166	No Data	Straight Roadway	0	No Data	0	0	0	5	No Data	No median
119	No Data	Straight Roadway	0	No Data	0	0	0	4	No Data	No median
0	No Data	Intersection	1	3-LEG	0	0	0	No Data	0	No Data
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
88	No Data	Curve (horizontal curve)	0	No Data	0	0	0	3	No Data	No median
32	40	Straight Roadway	0	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
151	No Data	Straight Roadway	0	No Data	0	0	0	4	No Data	No median
90	40	Curve (horizontal curve)	0	No Data	0	0	0	3	No Data	No median
122	No Data	Straight Roadway	0	No Data	0	0	0	3	No Data	No median
0	0	Intersection	0	4-LEG	0	0	0	No Data	1	No Data
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
114	No Data	Straight Roadway	1	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
57	No Data	Straight Roadway	0	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
0	40	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
58	No Data	Straight Roadway	1	No Data	0	0	0	2	No Data	No median
117	No Data	Straight Roadway	0	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
158	No Data	Driveway or Alley	0	No Data	0	0	0	2	No Data	No median
0	No Data	Intersection	0	3-LEG	0	0	1	No Data	0	No Data
0	No Data	Intersection	0	3-LEG	0	0	0	No Data	0	No Data
50	40	Straight Roadway	1	No Data	0	0	0	2	No Data	No median
107	No Data	Straight Roadway	1	No Data	0	0	0	2	No Data	No median

Crash Type Desc	Collision Type Desc	Crash Severity Desc	Weather Desc	Road Surface Condition Desc	Light Condition Desc	Traffic Control Device Desc	School Zone Indicator
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Unknown or not definite	No Data
Pedestrian	Pedestrian	Non-Fatal Injury	Cloudy	Dry	Daylight	No control	0
Entering at angle - all others	Turning movement	Non-Fatal Injury	Clear	Dry	Darkness - with street lights	Traffic Signals	0
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Unknown or not definite	0
Pedalcyclist	Bike	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	No Data
Entering at angle - all others	Turning movement	Non-Fatal Injury	Clear	Dry	Daylight	Traffic Signals	0
From opposite direction-one left turn,one straight	Turning movement	Non-Fatal Injury	Rain	Wet	Darkness - with street lights	Traffic Signals	No Data
Pedestrian	Pedestrian	Non-Fatal Injury	Clear	Dry	Daylight	Traffic Signals	No Data
Fixed object	Fixed Object or Other Object	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	0
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Darkness - with street lights	Traffic Signals	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	0
From opposite direction - both going straight	Sideswipe - Meeting	Non-Fatal Injury	Clear	Dry	Daylight	Unknown or not definite	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Rain	Wet	Darkness - with street lights	Traffic Signals	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Unknown or not definite	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	0
From opposite direction-one left turn,one straight	Turning Movement	Non-Fatal Injury	Clear	Dry	Daylight	Traffic Signals	0
Entering at angle - one vehicle stopped	Turning movement	Non-Fatal Injury	Cloudy	Dry	Daylight	Traffic Signals	0
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Traffic Signals	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Rain	Wet	Daylight	Unknown or not definite	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Darkness - with street lights	Right Turn Green Arrow, Lane Markings, or Signal	No Data
Fixed object	Fixed Object or Other Object	Non-Fatal Injury	Clear	Dry	Daylight	Unknown or not definite	0
From opposite direction-one left turn,one straight	Turning Movement	Non-Fatal Injury	Cloudy	Dry	Daylight	Unknown or not definite	0
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Traffic Signals	0
From same direction - one turn, one straight	Turning movement	Non-Fatal Injury	Clear	Dry	Darkness - with street lights	No control	No Data
From same direction - one turn, one straight	Turning movement	Non-Fatal Injury	Clear	Dry	Daylight	Traffic Signals	0
Entering at angle - all others	Turning movement	Non-Fatal Injury	Clear	Dry	Daylight	Unknown or not definite	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	0
From same direction - both going straight	Sideswipe - Overtaking	Property Damage Only	Clear	Dry	Daylight	Left Turn Green Arrow, Lane Markings, or Signal	No Data
From same direction - both going straight	Sideswipe - Overtaking	Property Damage Only	Clear	Dry	Daylight	Unknown or not definite	No Data
Fixed Object	Fixed Object or Other Object	Non-Fatal Injury	Clear	Dry	Darkness - with street lights	Stop Sign	No Data
From same direction - one turn, one straight	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	No Data
From same direction - both going straight	Sideswipe - Overtaking	Property Damage Only	Clear	Dry	Daylight	Right Turn Green Arrow, Lane Markings, or Signal	0
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	No control	0
From opposite direction-one left turn,one straight	Turning movement	Property Damage Only	Clear	Dry	Daylight	Traffic Signals	0
From same direction - both going straight	Sideswipe - Overtaking	Property Damage Only	Clear	Dry	Daylight	Unknown or not definite	No Data
From same direction - both going straight	Sideswipe - Overtaking	Property Damage Only	Cloudy	Dry	Daylight	Right Turn Green Arrow, Lane Markings, or Signal	0
From same direction - both going straight	Sideswipe - Overtaking	Property Damage Only	Clear	Dry	Daylight	Right Turn Green Arrow, Lane Markings, or Signal	No Data
From same direction - one stopped	Rear-End	Property Damage Only	Clear	Dry	Daylight	Traffic Signals	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Cloudy	Wet	Daylight	Stop Sign	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	No Data
Fixed object	Fixed Object or Other Object	Property Damage Only	Clear	Dry	Daylight	Unknown or not definite	0
From same direction - one stopped	Rear-End	Non-Fatal Injury	Rain	Wet	Darkness - no street lights	Stop Sign	0
From same direction - one stopped	Rear-End	Property Damage Only	Clear	Dry	Dusk (Twilight)	Unknown or not definite	No Data
From same direction - one stopped	Rear-End	Property Damage Only	Clear	Dry	Daylight	Stop Sign	No Data
From same direction - one stopped	Rear-End	Property Damage Only	Rain	Wet	Daylight	Stop Sign	0
Fixed Object	Fixed Object or Other Object	Property Damage Only	Clear	Dry	Darkness - with street lights	Unknown or not definite	No Data
Pedestrian	Pedestrian	Non-Fatal Injury	Clear	Dry	Daylight	Unknown or not definite	0
From opposite direction-one left turn,one straight	Turning movement	Non-Fatal Injury	Clear	Dry	Daylight	Stop Sign	1
Entering at angle - all others	Parking Maneuver	Non-Fatal Injury	Clear	Dry	Daylight	Unknown or not definite	No Data
From same direction - one stopped	Rear-End	Non-Fatal Injury	Clear	Dry	Darkness - no street lights	Stop Sign	No Data
From same direction - one stopped	Rear-End	Property Damage Only	Clear	Dry	Daylight	Stop Sign	No Data
Fixed Object	Fixed Object or Other Object	Property Damage Only	Clear	Dry	Daylight	No control	0
Fixed object	Fixed Object or Other Object	Property Damage Only	Cloudy	Wet	Darkness - with street lights	Unknown or not definite	No Data

Work Zone Indicator	Alcohol Involved Flag	Drug Involved Flag	Speed Involved Flag	Hit and Run Flag	ODOT Region	ODOT District	Total Vehicles	Total Deaths	Total Serious Injuries	Total Moderate Injuries	Total Minor Injuries
No Data	0	0	0	0	2	3	3	0	1	1	2
0	0	0	0	0	2	3	1	0	0	1	0
0	1	0	0	0	2	3	2	0	0	1	0
0	0	0	0	0	2	3	2	0	0	1	2
No Data	0	0	0	0	2	3	1	0	0	1	0
0	0	0	0	0	2	3	2	0	0	2	0
No Data	0	0	0	0	2	3	2	0	0	0	1
No Data	0	0	0	0	2	3	1	0	0	0	1
0	0	0	0	0	2	3	1	0	0	1	0
No Data	0	0	0	0	2	3	2	0	0	0	1
0	0	0	0	0	2	3	2	0	0	1	0
No Data	0	0	0	0	2	3	2	0	0	0	2
No Data	0	0	0	0	2	3	2	0	0	0	1
No Data	0	0	0	0	2	3	2	0	0	0	2
0	0	0	0	0	2	3	2	0	0	0	1
0	0	0	0	0	2	3	2	0	0	0	2
0	0	1	0	0	2	3	3	0	0	0	1
No Data	0	0	0	0	2	3	2	0	0	0	1
No Data	0	0	0	0	2	3	2	0	0	0	4
No Data	0	0	0	0	2	3	2	0	0	0	1
0	0	0	1	0	2	3	2	0	0	0	2
0	0	0	0	0	2	3	2	0	0	0	1
0	0	0	0	0	2	3	2	0	0	0	2
No Data	0	0	0	0	2	3	2	0	0	0	2
0	0	0	0	0	2	3	2	0	0	0	1
No Data	0	0	0	0	2	3	2	0	0	0	2
No Data	0	0	0	0	2	3	2	0	0	0	2
0	0	0	1	0	2	3	2	0	0	0	2
No Data	0	0	0	0	2	3	2	0	0	0	0
No Data	0	0	0	0	2	3	2	0	0	0	0
No Data	0	0	0	0	2	3	1	0	0	0	1
No Data	0	0	0	0	2	3	2	0	0	0	1
0	1	0	0	0	2	3	2	0	0	0	0
0	0	0	0	0	2	3	2	0	0	0	1
0	0	0	0	0	2	3	2	0	0	0	0
No Data	0	0	0	0	2	3	2	0	0	0	0
0	0	0	0	0	2	3	2	0	0	0	0
No Data	0	0	0	0	2	3	2	0	0	0	0
No Data	0	0	0	0	2	3	2	0	0	1	0
No Data	0	0	0	0	2	3	2	0	0	0	2
0	0	0	1	0	2	3	1	0	0	0	0
0	0	0	0	0	2	3	2	0	0	0	1
No Data	0	0	0	0	2	3	2	0	0	0	0
No Data	0	0	0	0	2	3	2	0	0	0	0
0	0	0	0	0	2	3	3	0	0	0	0
No Data	1	0	0	0	2	3	1	0	0	0	0
0	0	0	0	0	2	3	1	0	0	1	0
No Data	1	0	0	0	2	3	3	0	0	2	0
No Data	0	0	0	0	2	3	2	0	0	0	1
No Data	0	0	0	0	2	3	2	0	0	0	2
No Data	0	0	0	0	2	3	2	0	0	0	0
0	0	0	0	0	2	3	1	0	0	0	0
No Data	0	1	0	0	2	3	1	0	0	0	0

Total Pedestrians	Total Pedestrian Deaths	Total Pedestrian Injuries	Total Pedal-cyclists	Total Pedal-cyclist Deaths	Total Pedal-cyclist Injuries	Total Unknown Non-Motorists	Total Unknown Non-Motorist Death	Total Unknown Non-Motorist Injured
0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	1	0	1	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

Total Safety Equip Un-used	Crash Month	Crash Day	Crash Year	Day of Week	Crash Cause 1 Desc	Crash Cause 2 Desc	Crash Cause 3 Desc
0	3	1	2017	4	Careless Driving (per PAR)	Inattention	Failed to avoid vehicle ahead
0	5	27	2014	3	Did not yield right-of-way	Non-motorist illegally in roadway	Non-motorist not visible; non-reflective clothing
0	12	27	2014	7	Did not yield right-of-way	No Data	No Data
0	8	2	2017	4	Careless Driving (per PAR)	Inattention	Failed to avoid vehicle ahead
0	1	5	2015	2	Non-motorist illegally in roadway	Made improper turn	No Data
0	3	16	2015	2	Disregarded traffic signal	No Data	No Data
0	1	14	2016	5	Did not yield right-of-way	No Data	No Data
0	9	18	2018	3	Disregarded traffic signal	No Data	No Data
0	5	25	2018	6	Other improper driving	No Data	No Data
0	5	6	2016	6	Failed to avoid vehicle ahead	No Data	No Data
0	10	13	2015	3	Careless Driving (per PAR)	Followed too closely	No Data
0	11	29	2018	5	Phantom / Non-contact Vehicle	No Data	No Data
0	12	9	2018	1	Failed to avoid vehicle ahead	No Data	No Data
0	6	6	2015	7	Followed too closely	No Data	No Data
0	3	24	2016	5	Followed too closely	No Data	No Data
0	2	26	2018	2	Did not yield right-of-way	No Data	No Data
0	3	10	2015	3	Made improper turn	No Data	No Data
0	10	11	2017	4	Failed to avoid vehicle ahead	No Data	No Data
0	9	24	2014	4	Followed too closely	No Data	No Data
0	11	26	2014	4	Followed too closely	No Data	No Data
0	7	23	2018	2	Too fast for conditions (not exceed posted speed)	No Data	No Data
0	8	15	2018	4	Did not yield right-of-way	No Data	No Data
1	3	26	2016	7	Careless Driving (per PAR)	Followed too closely	No Data
0	3	7	2014	6	Improper overtaking	No Data	No Data
0	8	11	2016	5	Made improper turn	No Data	No Data
0	8	3	2017	5	Did not yield right-of-way	No Data	No Data
0	5	11	2017	5	Failed to avoid vehicle ahead	No Data	No Data
0	7	22	2017	7	Driving in excess of posted speed	Failed to avoid vehicle ahead	No Data
0	7	9	2018	2	Improper change of traffic lanes	No Data	No Data
0	10	12	2018	6	Improper change of traffic lanes	No Data	No Data
0	9	6	2014	7	Made improper turn	No Data	No Data
0	7	26	2017	4	Failed to avoid vehicle ahead	No Data	No Data
0	6	12	2015	6	Improper change of traffic lanes	No Data	No Data
0	9	3	2014	4	Followed too closely	No Data	No Data
0	9	28	2016	4	Did not yield right-of-way	No Data	No Data
0	11	6	2017	2	Improper change of traffic lanes	No Data	No Data
0	6	26	2014	5	Improper change of traffic lanes	No Data	No Data
0	6	24	2014	3	Improper change of traffic lanes	No Data	No Data
0	7	2	2014	4	Followed too closely	No Data	No Data
0	11	16	2017	5	Failed to avoid vehicle ahead	No Data	No Data
0	12	11	2017	2	Failed to avoid vehicle ahead	No Data	No Data
0	5	22	2018	3	Too fast for conditions (not exceed posted speed)	No Data	No Data
0	1	11	2016	2	Careless Driving (per PAR)	Inattention	Failed to avoid vehicle ahead
0	1	15	2017	1	Failed to avoid vehicle ahead	No Data	No Data
0	5	15	2018	3	Failed to avoid vehicle ahead	No Data	No Data
0	12	10	2014	4	Careless Driving (per PAR)	Followed too closely	No Data
0	10	18	2015	1	Inattention	No Data	No Data
0	6	17	2016	6	Non-motorist illegally in roadway	No Data	No Data
0	11	3	2015	3	Did not yield right-of-way	No Data	No Data
0	10	9	2018	3	Did not yield right-of-way	No Data	No Data
0	8	19	2017	7	Failed to avoid vehicle ahead	No Data	No Data
0	3	29	2016	3	Failed to avoid vehicle ahead	No Data	No Data
0	4	26	2014	7	Physical illness	Drove left of center on two-way road; straddling	No Data
0	2	18	2018	1	Other improper driving	No Data	No Data

Crash Event 1 Desc	Crash Event 2 Desc	Crash Event 3 Desc	Pedestrian Present Flag	Roadway Departure Flag	Motorcycle Flag
Vehicle forced by impact into another vehicle, pedalcyclist or pedestrian	No Data	No Data	0	0	0
Vertical grade / hill present at crash location	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
Mailbox	Pole – power or telephone	Fire or explosion	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
Other (phantom) non-contact vehicle	No Data	No Data	0	1	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
Other sign, including street signs	Fire or explosion	No Data	0	1	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
Tree, stump or shrubs	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
Cut slope or ditch embankment	No Data	No Data	0	1	0
Cell phone (on PAR or driver in use)	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
Curb (also narrow sidewalks on bridges)	Fence	Vehicle forced by impact into another vehicle, pedalcyclist or pedestrian	0	0	0
Curb (also narrow sidewalks on bridges)	Building or other structure	No Data	0	1	0
No Data	No Data	No Data	0	0	0
Vehicle forced by impact into another vehicle, pedalcyclist or pedestrian	No Data	No Data	0	0	0
Vehicle obscured view	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
No Data	No Data	No Data	0	0	0
Cut slope or ditch embankment	Tree, stump or shrubs	Building or other structure	0	1	0
Curb (also narrow sidewalks on bridges)	Pole – power or telephone	No Data	0	1	0

Distracted Driving Flag	Wildlife Flag	Pedalcyclist Present Flag	Graph by Day of Week	Graph by LRS and MP	Graph by Hour	Graph_LRS_MP	Highest Injury Severity Code	Highest Injury Severity Description	Marijuana Involved Flag
1	0	0	1 - Sunday	2 - Suspected Serious Injury	14:00 to 14:59	-1	2	Suspected Serious Injury (A)	0
0	0	0	No Data	3 - Suspected Minor Injury	15:00 to 15:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	No Data	3 - Suspected Minor Injury	23:00 to 23:59	-1	3	Suspected Minor Injury Crash (B)	0
1	0	0	2 - Monday	3 - Suspected Minor Injury	18:00 to 18:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	5 - Thursday	3 - Suspected Minor Injury	12:00 to 12:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	No Data	3 - Suspected Minor Injury	12:00 to 12:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	No Data	4 - Possible Injury	20:00 to 20:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	07:00 to 07:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	3 - Suspected Minor Injury	20:00 to 20:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	6 - Friday	4 - Possible Injury	22:00 to 22:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	3 - Suspected Minor Injury	16:00 to 16:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	No Data	4 - Possible Injury	16:00 to 16:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	20:00 to 20:59	-1	4	Possible Injury Crash (C)	0
0	0	0	6 - Friday	4 - Possible Injury	14:00 to 14:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	14:00 to 14:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	16:00 to 16:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	16:00 to 16:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	16:00 to 16:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	07:00 to 07:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	06:00 to 06:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	14:00 to 14:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	07:00 to 07:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	13:00 to 13:59	-1	4	Possible Injury Crash (C)	0
0	0	0	7 - Saturday	4 - Possible Injury	21:00 to 21:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	12:00 to 12:59	-1	4	Possible Injury Crash (C)	0
0	0	0	3 - Tuesday	4 - Possible Injury	20:00 to 20:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	17:00 to 17:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	20:00 to 20:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	5 - No Apparent Injury	12:00 to 12:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	5 - No Apparent Injury	09:00 to 09:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	6 - Friday	4 - Possible Injury	02:00 to 02:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	11:00 to 11:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	5 - No Apparent Injury	20:00 to 20:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	3 - Tuesday	4 - Possible Injury	15:00 to 15:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	5 - No Apparent Injury	15:00 to 15:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	6 - Friday	5 - No Apparent Injury	15:00 to 15:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	5 - No Apparent Injury	12:00 to 12:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	5 - No Apparent Injury	12:00 to 12:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	2 - Monday	5 - No Apparent Injury	12:00 to 12:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	3 - Suspected Minor Injury	11:00 to 11:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	No Data	4 - Possible Injury	12:00 to 12:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	5 - No Apparent Injury	13:00 to 13:59	-1	5	No Apparent Injury/PDO Crash (O)	0
1	0	0	No Data	4 - Possible Injury	16:00 to 16:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	5 - No Apparent Injury	17:00 to 17:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	5 - No Apparent Injury	16:00 to 16:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	5 - No Apparent Injury	14:00 to 14:59	-1	5	No Apparent Injury/PDO Crash (O)	0
1	0	0	No Data	5 - No Apparent Injury	22:00 to 22:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	3 - Suspected Minor Injury	14:00 to 14:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	3 - Tuesday	3 - Suspected Minor Injury	09:00 to 09:59	-1	3	Suspected Minor Injury Crash (B)	0
0	0	0	No Data	4 - Possible Injury	15:00 to 15:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	4 - Possible Injury	21:00 to 21:59	-1	4	Possible Injury Crash (C)	0
0	0	0	No Data	5 - No Apparent Injury	11:00 to 11:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	5 - No Apparent Injury	13:00 to 13:59	-1	5	No Apparent Injury/PDO Crash (O)	0
0	0	0	No Data	5 - No Apparent Injury	20:00 to 20:59	-1	5	No Apparent Injury/PDO Crash (O)	0

Route Number	Route Type	Youngest Driver Involved Age	Oldest Driver Involved Age	Youngest Driver at Error Age	Oldest Driver at Error Age	Number of Drivers at Error	Youngest Pedestrian Involved Age	Oldest Pedestrian Involved Age
No Data	No Data	18	37	18	18	1	No Data	No Data
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No Data	No Data	33	54	54	54	1	No Data	No Data
No Data	No Data	18	70	70	70	1	No Data	No Data
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No Data	No Data	35	37	35	35	1	No Data	No Data
No Data	No Data	45	45	45	45	1	No Data	No Data
No Data	No Data	17	17	17	17	1	No Data	No Data
No Data	No Data	16	24	16	16	1	No Data	No Data
No Data	No Data	36	64	36	36	1	No Data	No Data
No Data	No Data	32	36	36	36	1	No Data	No Data
No Data	No Data	19	41	19	19	1	No Data	No Data
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No Data	No Data	17	35	35	35	1	No Data	No Data
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No Data	No Data	20	50	27	27	1	No Data	No Data
No Data	No Data	16	51	51	51	1	No Data	No Data
No Data	No Data	39	39	No Data	No Data	No Data	No Data	No Data
No Data	No Data	54	67	67	67	1	No Data	No Data
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No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
No Data	No Data	22	22	22	22	1	No Data	No Data
No Data	No Data	23	85	23	23	1	No Data	No Data
No Data	No Data	28	49	No Data	No Data	No Data	No Data	No Data
No Data	No Data	16	17	17	17	1	No Data	No Data
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No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
No Data	No Data	24	32	24	24	1	No Data	No Data
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No Data	No Data	24	40	24	24	1	No Data	No Data
No Data	No Data	18	18	18	18	1	No Data	No Data
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No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
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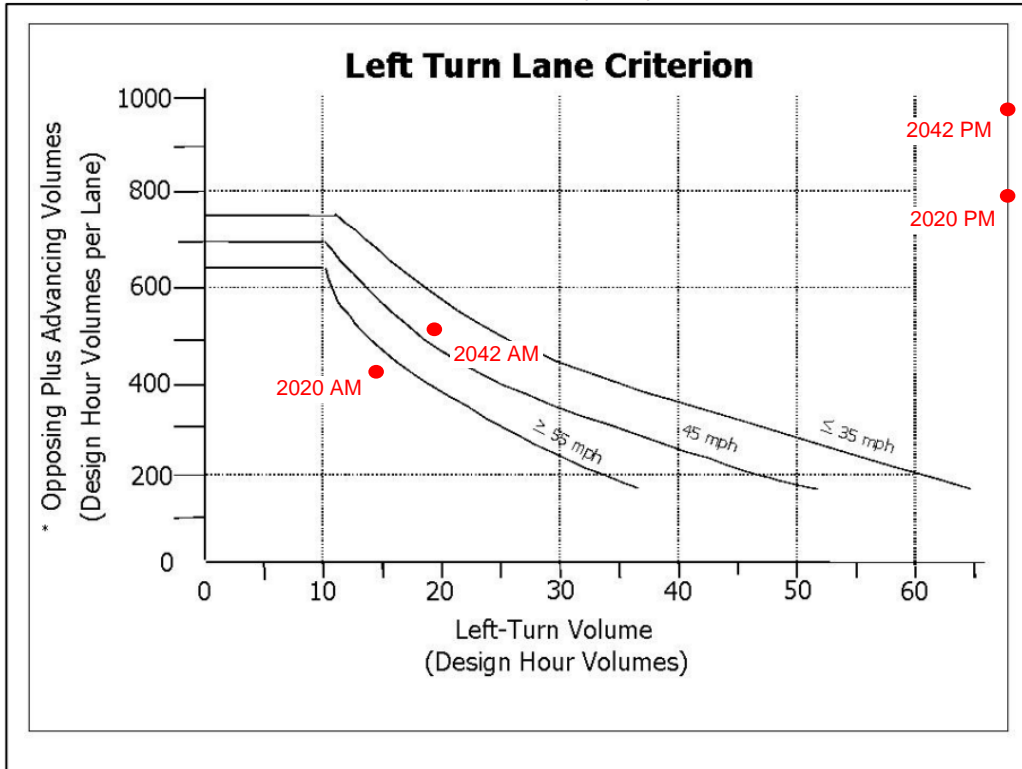
Male Driver Involved	Female Driver Involved	Non-Binary Driver Involved	Male Driver at Error	Female Driver at Error	Non-Binary Driver at Error	Unknown Gender Driver at Error	Unknown Gender Driver Involved	Metropolitan Planning Organization
Yes	Yes	No	Yes	No	No	No	No	Salem/Keizer
No	Yes	No	No	Yes	No	No	No	Salem/Keizer
Yes	No	No	Yes	No	No	No	No	Salem/Keizer
Yes	Yes	No	Yes	No	No	No	No	Salem/Keizer
No	Yes	No	No	No	No	No	No	Salem/Keizer
Yes	Yes	No	Yes	No	No	No	No	Salem/Keizer
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No	Yes	No	No	Yes	No	No	No	Salem/Keizer
Yes	No	No	Yes	No	No	No	No	Salem/Keizer
Yes	Yes	No	Yes	No	No	No	No	Salem/Keizer
No	Yes	No	No	Yes	No	No	No	Salem/Keizer
Yes	Yes	No	Yes	No	No	No	No	Salem/Keizer
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Yes	No	No	Yes	No	No	No	No	Salem/Keizer
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No	Yes	No	No	Yes	No	No	No	Salem/Keizer
Yes	Yes	No	Yes	No	No	No	No	Salem/Keizer
Yes	No	No	Yes	No	No	No	No	Salem/Keizer
No	Yes	No	No	Yes	No	No	No	Salem/Keizer
Yes	No	No	Yes	No	No	No	No	Salem/Keizer
Yes	Yes	No	Yes	No	No	No	No	Salem/Keizer
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No	No	No	No	No	No	No	Yes	Salem/Keizer
Yes	No	No	Yes	No	No	No	No	Salem/Keizer
No	No	No	No	No	No	No	Yes	Salem/Keizer

Youngest Bicyclist Involved Age	Oldest Bicyclist Involved Age	Female Bicyclist Involved	Male Bicyclist Involved	Non-Binary Bicyclist Involved	Unknown Gender Bicyclist Involved	Female Pedestrian Involved	Male Pedestrian Involved
No Data	No Data	No	No	No	No	No	No
16	16	No	Yes	No	No	No	Yes
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4	4	No	Yes	No	No	No	Yes
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No Data	No Data	No	No	No	No	No	No
No Data	No Data	No	No	No	No	No	No

Non-Binary Pedestrian Involved	Unknown Gender Pedestrian Involved	x	y
No	No	-13695049.18	5624500.433
No	No	-13694870.92	5623861.997
No	No	-13694598.65	5623401.629
No	No	-13694853.76	5623829.412
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No	No	-13695108.86	5625200.816
No	No	-13694598.65	5623401.629
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No	No	-13694598.65	5623401.191
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No	No	-13694598.65	5623401.629
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No	No	-13695109.17	5625613.371
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No	No	-13695102.37	5625978.694
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No	No	-13694713.37	5627034.492

APPENDIX E: LEFT TURN LANE CRITERIA

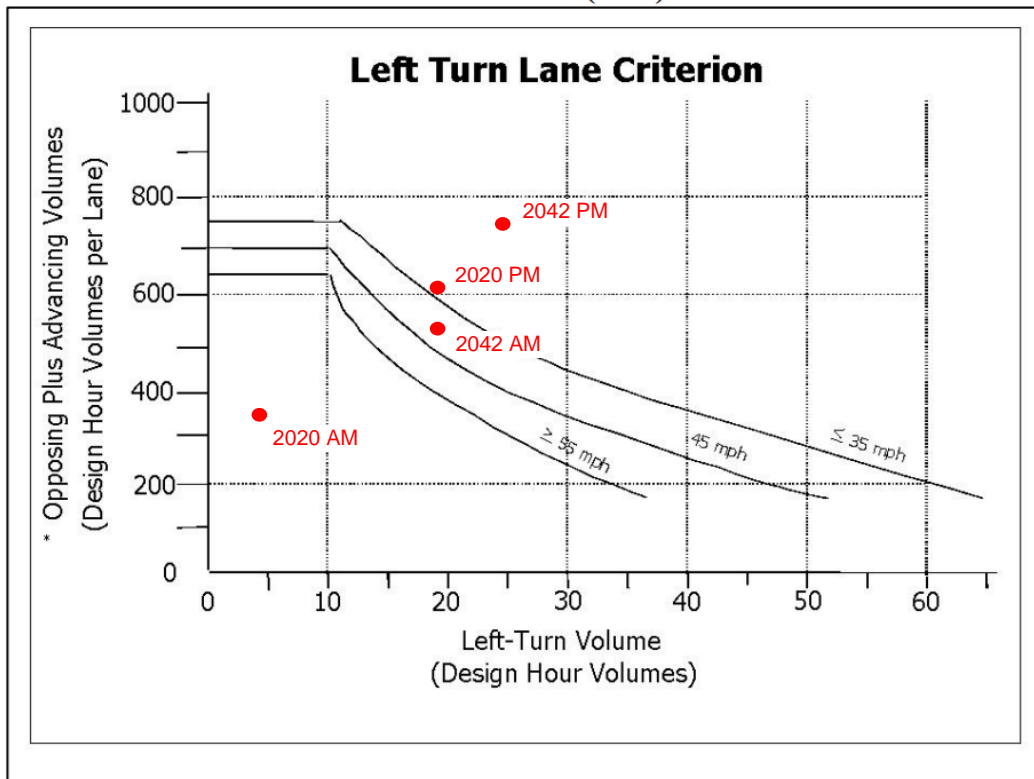
Exhibit 12-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

Opposing left turns are not counted as opposing volumes

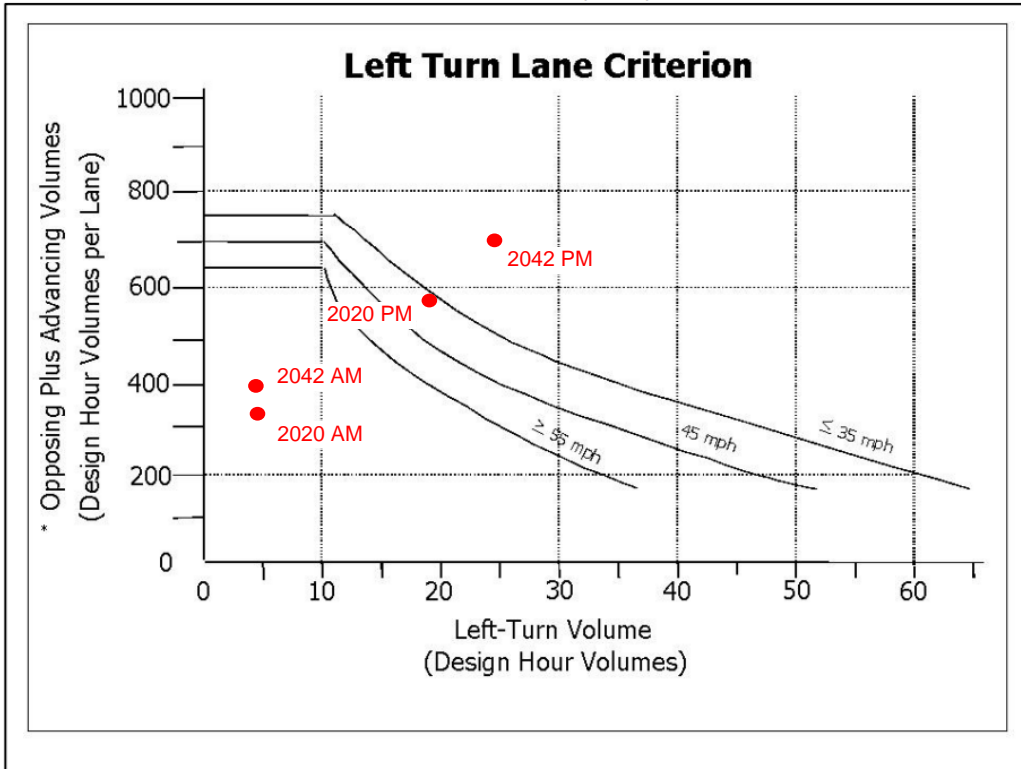
Exhibit 12-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

Opposing left turns are not counted as opposing volumes

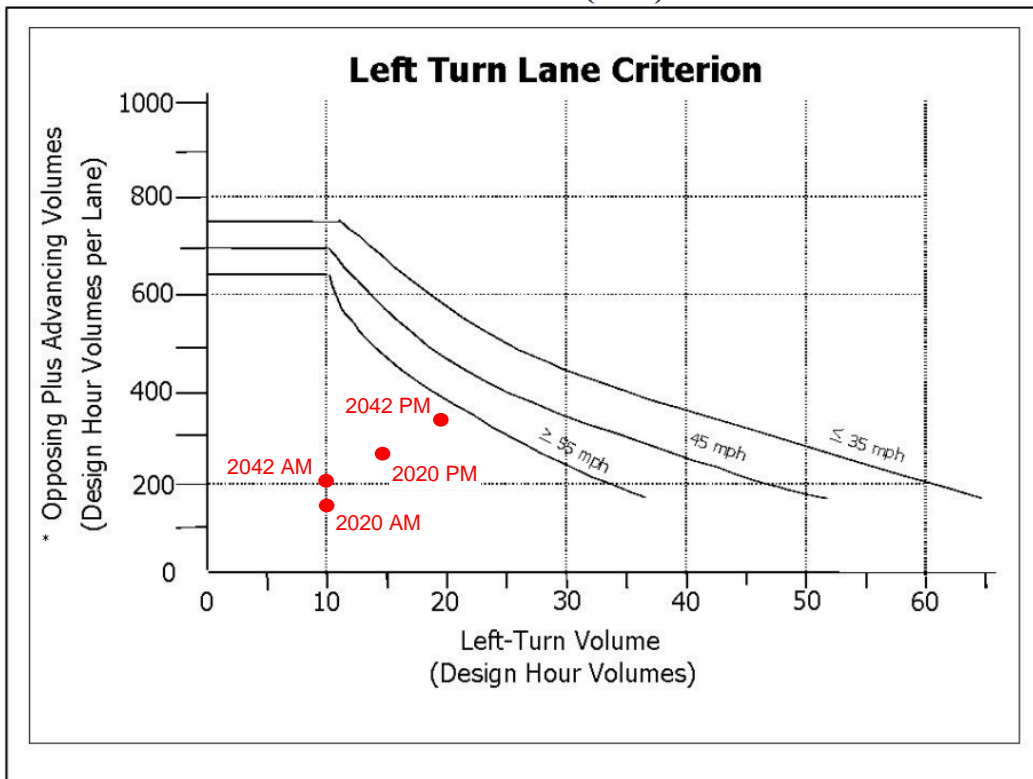
Exhibit 12-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

Opposing left turns are not counted as opposing volumes

Exhibit 12-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

Opposing left turns are not counted as opposing volumes

03 TECHNICAL MEMORANDUM #2

EVALUATION CRITERIA





MEMORANDUM # 2

DATE: December 2, 2020

TO: Project Management Team

FROM: Scott Mansur, P.E., PTOE | DKS Associates
Jenna Bogert, E.I. | DKS Associates

SUBJECT: Wheatland Road Corridor Plan – Evaluation Criteria

Project #20020-009

INTRODUCTION

The goals, objectives, and policies for the future of Keizer’s transportation system are found in the City’s Transportation System Plan. They guide the development of the transportation system within the City and were based on the previous TSP, conversations with City of Keizer staff and the project Technical Advisory Committee. Goals and policies have been summarized below; these will guide the direction and process of the Wheatland Road Corridor Study and public process.

GOALS AND OBJECTIVES

GOAL #2: ENVIRONMENT

Provide for a sustainable transportation system which respects the environment and community.

- Objective #1: Minimize the adverse effects on **environmentally sensitive areas** and water quality.
- Objective #2: Minimize the adverse effects (e.g. noise, air, speed) **on neighborhoods**.
- Objective #3: Consider opportunities to minimize impervious surfaces through alternative material use and pavement width reductions while still meeting the necessary standards.

GOAL #3: STREETS

Maximize the efficiency of the existing transportation system.

- Objective #1: Provide a street system emphasizing connectivity that **minimizes travel time and congestion** while being compatible with other modes of transportation.
- Objective #2: Maximize available system **capacity**.

- Objective #3: Maintain the physical integrity of existing roads to preserve and **maximize infrastructure investments**.
- Objective #4: Manage on and off-street parking to support community needs.
- Objective #5: Maintain an **acceptable level of service** within the transportation system.

GOAL #4: COMPREHENSIVE, CONNECTED, AND MULTIMODAL

Provide efficient and comprehensive linkages between all modes of transportation.

- Objective #1: Develop **paths, connections, and facilities** to provide simple access between **modes** at different parts of work, shopping, or recreational trips.
- Objective #2: **Safety** must be an underlying concept for any element of the transportation system.

GOAL #5: PEDESTRIANS AND CYCLISTS

Develop a comprehensive system of pedestrian and bicycle facilities for the City of Keizer.

- Objective #1: Establish a **continuous, direct, and safe system of bicycle and pedestrian facilities** within the Keizer urban area and **connect** it to the greater regional system.
- Objective #2: Achieve greater public awareness of safe pedestrian, bicycling, and motoring practices, procedures, and skills.

GOAL #6: TRANSIT

Support a public transit system for all Keizer residents focusing on accessibility and mobility.

- Objective#1: Facilitate public transit services throughout the urbanized portions of the Keizer area that ensures **convenient accessibility** to a variety of destinations at different times of the day. Advocate affordable transit service and **increase ridership**.
- Objective #2: Encourage a transit system which offers **connectivity** between activity centers, such as schools, parks, shopping centers, and residences with minimum transfers.
- Objective #3: Support transit programs that **serve transportation disadvantaged** citizens consistent with Americans with Disabilities Act (ADA) requirements.

GOAL #11: TRANSPORTATION SYSTEM MANAGEMENT

Maximize the efficiency of the existing surface transportation system through management techniques and facility improvements

- Objective #1: Provide a system of traffic control devices maintained and operated to an acceptable LOS.

- Objective #2: Improve physical design and management of on-street parking consistent with community need.
- Objective #3: Increase **street system safety and capacity** through access management.

EVALUATION CRITERIA AND SCORING METHODOLOGY

Based on the goals and objectives that guide future transportation projects and programs in the City of Keizer, the following categories have been created to evaluate the alternatives that will be determined through the public process and evaluated by the project team.

- Neighborhood Livability
- Environmental
- Utilization of Existing Infrastructure
- Traffic Operations
- Safe Routes to School
- Safety
- Transportation Mode Choices/Multimodal Connectivity
- Equity
- Convenient and Accessible Transit
- Cost Effective

The goals and policies in the City's Transportation System Plan provided a basis for the development of the evaluation criteria, which are intended to assess a project's potential to meet the transportation needs of the City. The evaluation criteria were then refined.

TABLE 1: WHEATLAND ROAD EVALUATION CRITERIA AND SCORING

CRITERIA	SCORING
<p><u>NEIGHBORHOOD LIVABILITY:</u> How does the alternative influence neighborhood livability (e.g. Noise, air, speed, vehicle volume)?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>
<p><u>ENVIRONMENTAL:</u> How does the alternative influence the natural environment (e.g. Stormwater, air quality, natural resources)?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>
<p><u>UTILIZATION OF EXISTING INFRASTRUCTURE:</u> How much of the existing infrastructure does the alternative utilizes within the study area (e.g. sidewalks, pavement, utilities)?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>
<p><u>TRAFFIC OPERATIONS:</u> How does the alternative accommodate commuter, transit, and heavy vehicle operations (e.g. Travel time, delay, capacity)?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>
<p><u>TRANSPORTATION MODE CHOICES/MULTIMODAL CONNECTIVITY:</u> How well does the alternative support transportation and commuting mode choices and connectivity for users.</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>
<p><u>EQUITY:</u> How well does the alternative serve the disadvantaged population?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>
<p><u>SAFE ROUTES TO SCHOOL:</u> How well do the alternatives support students walking, biking, and accessing school bus stops to connect to Salem-Keizer schools?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>
<p><u>SAFETY:</u> How well does the alternative improve or impact safety for all modes of travel?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>

CRITERIA	SCORING
<p><u>CONVENIENT AND ACCESSIBLE TRANSIT:</u> How well does the alternative support existing and future transit routes within the corridor?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>
<p><u>COST EFFECTIVE/FUNDABILITY:</u> How do the alternatives compare in planning level cost estimates and their potential to receive state or federal funding?</p>	<p>-2 to +2 0 – No Change -2 – Significant Impacts +2 – Significant Improvements</p>

The scoring methodology will be applied in the following way:

Equal weight for each goal category – Each of the eight categories receives an equal weight. In this method, evaluation scores for each criterion under a particular goal category would be averaged to determine one score for each goal category. They would then be summed to arrive at an overall evaluation score.

APPENDIX

EXAMPLE SCORING (EQUAL WEIGHT):

Alt A: separated multi use path with landscaping buffer, no transit improvements

Alt B: on-street buffered bike lanes with sidewalk infill, transit improvements, turn lanes at key intersections

EVALUATION CRITERIA	ALT A	ALT B	COMMENT
NEIGHBORHOOD LIVABILITY	+2	+1	Landscape buffer favors Alt A. Separated path to be used by all ages/abilities.
ENVIRONMENTAL	+1	+1	Both alternatives can provide equal environmental benefits
UTILIZATION OF EXISTING INFRASTRUCTURE	-1	+1	Alt A removes existing sidewalk/bike lanes and replaces with multiuse path. Alt B maintains majority of existing curb and sidewalk.
TRAFFIC OPERATIONS	0	+1	Alt B provides left turn lanes for improved operations at key intersections
SAFE ROUTES TO SCHOOL	+2	+1	Alt A provides a separated path to be used by all ages/abilities.
SAFETY	+2	+1	Separated path provides safest ped/bike options. Alt B provides multimodal connected system that also improves safety.
TRANSPORTATION MODE CHOICES/MULTIMODAL CONNECTIVITY	+1	+1	Both alternatives provide a connected multimodal system.
EQUITY	+1	+1	Both alternatives improve transportation services for transportation disadvantaged.
CONVENIENT AND ACCESSIBLE TRANSIT	0	+1	Alt B provides enhanced transit amenities.
COST EFFECTIVE/FUNDABILITY	-1	+1	Alt A has higher cost estimate, Alt B maintains more of existing infrastructure and has lower cost estimate.
TOTAL	+7	+10	

04

TECHNICAL MEMORANDUM #3 DESIGN ALTERNATIVES AND TIER 1 SCREENING





MEMORANDUM #3

DATE: May 26, 2021

TO: Project Management Team

FROM: Scott Mansur, P.E., PTOE | DKS Associates
 Jenna Bogert, P.E. | DKS Associates
 Travis Larson, E.I. | DKS Associates

SUBJECT: Wheatland Road Corridor Plan – Design Alternatives and Tier 1 Screening P#20020-009

INTRODUCTION

This memorandum summarizes the development of the design alternatives for the Wheatland Road corridor and includes a preliminary evaluation (Tier 1 Screening) of the three proposed design alternatives, building off the two previous memoranda which covered the existing conditions analysis¹ and proposed evaluation criteria². The conceptual cross sections of this memorandum illustrate alternative uses of the available right-of-way along Wheatland Road. A summary of public feedback from the Virtual Open House #1 is also provided here.

VIRTUAL OPEN HOUSE #1 SUMMARY

Public outreach and feedback are important to ensure the Wheatland Road corridor transportation improvements are consistent with the community's needs and desires. The first Virtual Open House was held for the project from February 12th to March 21st (total of 38 days). Virtual Open House #1 was accessed through the City's project website³ and provided the general public with digital posterboards, the two previous memoranda describing the existing and future baseline conditions and evaluation criteria, as well as a 10-question feedback survey. Announcement of Virtual Open House #1 was made to the following stakeholders via Facebook, flyers, emails, the Keizer Times, and at Committee meetings:

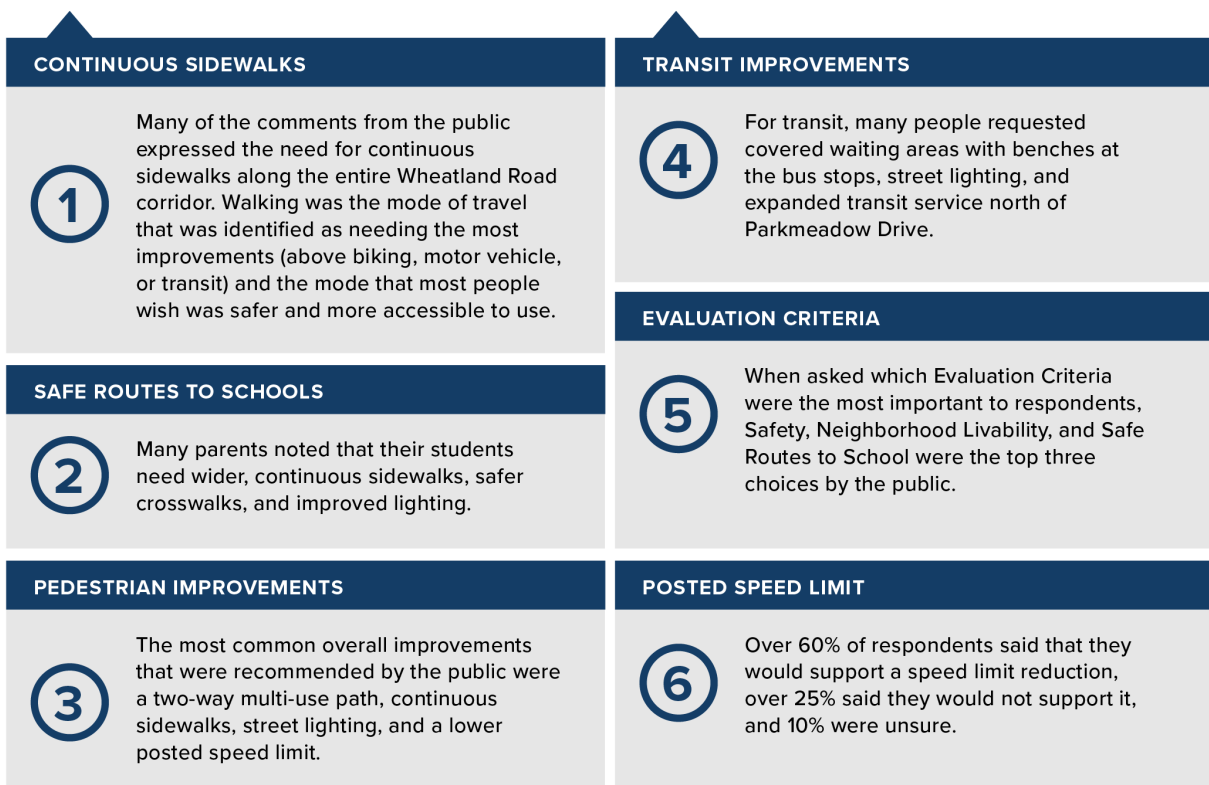
¹ Existing and Future Forecast Conditions – Memorandum #1, Wheatland Road Corridor Plan, DKS Associates, January 2021.

² Evaluation Criteria – Memorandum #2, Wheatland Road Corridor Plan, DKS Associates, December 2020.

³ <https://www.keizer.org/WheatlandRoadMultimodalCorridorPlan>

- Traffic Safety-Bikeways-Pedestrian Committee
- Salem Bicycle Club
- Vineyard Homeowners Association
- Keizer Neighborhood Associations (Gubser, Southeast, West)
- Courthouse Athletic Club
- B&S Market
- Revis Keizer Automotive
- McNary Heights Apartments
- Wheatland Village Apartments
- Keizer Christian Church
- Parkmeadow Apartments
- Willamette Lutheran Retirement Homes
- Keizer Clearlake United Methodist Church
- Keizer Storage Center
- Marion County Fire District - Clearlake Fire Station #6
- Mr. Rooter Plumbing
- McNary Estates
- Cherriots Transit
- Clear Lake Elementary School
- Forest Ridge Elementary School

There were over 550 website views during Virtual Open House #1 (February 12th – March 21st) and 55 feedback surveys completed. See the Appendix for the feedback survey. Responses from the public feedback survey are summarized below:



The second Virtual Open House will occur after the conceptual design alternatives have been created and evaluated against the ten Evaluation Criteria⁴ (Tier 1 Screening). At the second Virtual Open House, the public will be able to provide feedback on their preferred design alternative.

⁴ Evaluation Criteria – Memorandum #2, Wheatland Road Corridor Plan, DKS Associates, December 2020.

CROSS SECTION ELEMENTS

Practical design must be employed when evaluating this facility and proposing future enhancements. For pedestrians, system connectivity needs to be achieved by adding sidewalk, curb ramps, and separation from vehicle traffic where possible. There are many segments of roadway without sidewalks on either side of the road which can discourage or inhibit walking for many users, including people in wheelchairs or those with other mobility issues. For cyclists, all types of cyclists should be comfortable while riding along a bike facility. The National Association of City Transportation Officials (NACTO) published contextual guidance for designing bicycle facilities for all ages and abilities using the criteria of safety, comfortability, and equity⁵. Based on the average daily vehicle traffic volumes and the posted speed of Wheatland Road, a protected bike lane or separated bike facility is recommended to provide bicycle facilities where all users feel safe and comfortable.

NACTO guidelines⁶ and the City of Keizer's Transportation System Plan (TSP) and Public Works Design Standards⁷ recommend the following minimum widths for various cross section elements shown in Table 1.

TABLE 1: MINIMUM WIDTHS FOR CROSS SECTION ELEMENTS

CROSS SECTION ELEMENT	NACTO MINIMUM WIDTH	CITY MINIMUM WIDTH
SIDEWALK	5 feet	6 feet
MULTI-USE PATH	10 feet	12 feet
BIKE LANE	5 feet	6 feet
BIKE LANE BUFFER	1.5 feet	-
PLANTER STRIP	-	5 feet
CURB-TO-CURB WIDTH	-	36 to 50 feet (Minor Arterials)
RIGHT-OF-WAY	-	72 feet (Minor Arterials)

⁵ Designing for All Ages and Abilities, National Association of City Transportation Officials, December 2017.

⁶ <https://nacto.org/publication/urban-street-design-guide/street-design-elements/sidewalks/>
https://nacto.org/docs/usdq/shared_use_path_accessibility_guidelines_federal_register.pdf
<https://nacto.org/publication/urban-bikeway-design-guide/bike-lanes/conventional-bike-lanes/>
<https://nacto.org/publication/urban-bikeway-design-guide/bike-lanes/buffered-bike-lanes/>

⁷ City of Keizer Transportation System Plan, Part 1 of 2, April 2009.
 Section 3.13, Public Works Design Standards, City of Keizer.

STREET DESIGN ALTERNATIVES

Based on the comments received during the Virtual Open House #1 and guidance from City planning documents, there are three conceptual street design alternatives that are being considered for the Wheatland Road corridor. Because a left-turn lane is warranted⁸ at the Russett Drive intersection, specific cross section designs were created for that area that include a center-left turn lane. There are also some additional design options for potential enhanced pedestrian crossing locations. See the [Enhanced Pedestrian Crossing Treatments](#) section.

The proposed alternatives focused on developing a design that best meets the current and future transportation needs of the corridor. To facilitate development of a conceptual design plan that can be adopted and implemented, an effort was made to identify alternatives that minimize the costs related to right-of-way acquisition and curb reconstruction. A total of three street design alternatives plus a No Build alternative are described in the following sections.

NO BUILD ALTERNATIVE (EXISTING CONFIGURATION)

The No Build alternative would involve no changes to the current roadway with no improvements or alterations. It is a baseline that gives perspective to the changes with the proposed alternatives. The current cross section along Wheatland Road consists primarily of two travel lanes, bike lanes directly adjacent to the vehicle travel lanes with no buffer zone, and intermittent sections of sidewalk. The travel lanes are 11 feet wide and bike lanes are between 5 to 7 feet wide, resulting in a 32 - 36 feet curb-to-curb width as shown in Figure 1. Where sidewalk exists, the width varies from 5 to 6 feet.



FIGURE 1: NO BUILD (EXISTING CONFIGURATION) CROSS SECTION

The travel lanes are 11 feet wide and bike lanes are between 5 to 7 feet wide, resulting in a 32 - 36 feet curb-to-curb width as shown in Figure 1. Where sidewalk exists, the width varies from 5 to 6 feet.

The table below shows a list of considerations for the No Build (Existing Configuration).

⁸ Existing and Future Forecast Conditions – Memorandum #1, Wheatland Road Corridor Plan, DKS Associates, January 2021.

TABLE 2: NO BUILD (EXISTING CONFIGURATION) ALTERNATIVE CONSIDERATIONS

CATEGORY	NOTE
SAFETY	<ul style="list-style-type: none"> • Crash history at Russett Drive; lack of left-turn lane leads to rear-end collisions involving vehicles turning from Wheatland Road • Pedestrians are vulnerable where sidewalks are not present and at street crossings due to travel speeds and lack of enhanced pedestrian crossings (i.e., signing, striping, activated flashers, and pedestrian refuge islands)
MOTOR VEHICLE OPERATIONS	<ul style="list-style-type: none"> • Maintains the existing two-lane roadway configuration, current travel times, and current travel speeds • Left-turning vehicles block travel lanes
PEDESTRIAN FACILITIES	<ul style="list-style-type: none"> • Inconsistent sidewalk presence • Inadequate lighting • Lack of enhanced pedestrian crossings for nearby students walking to/from school and other persons walking or rolling and persons with mobility challenges • Sidewalks and curb ramps are not ADA compliant
BICYCLE FACILITIES	<ul style="list-style-type: none"> • On-street bicycle lanes are present (5 - 7 feet in width) • No lateral separation or protection from vehicles as recommended by NACTO for this type of roadway based on the All Ages and Abilities goal
TRANSIT SERVICE	<ul style="list-style-type: none"> • Provides service south of Parkmeadow Drive only • Bus stops are located on west side of corridor only • No covered waiting areas or benches • Inadequate lighting
ENVIRONMENTAL	<ul style="list-style-type: none"> • Large oak trees exist along the east side of the corridor
RIGHT-OF-WAY	<ul style="list-style-type: none"> • The existing right-of-way varies between 60 – 72 feet.
COST	<ul style="list-style-type: none"> • No project cost due to no improvements • Will still have typical maintenance cost

BUILD ALTERNATIVE #1: TRANSPORTATION SYSTEM PLAN (TSP) STREET DESIGN

The Transportation System Plan (TSP) alternative (Build Alternative #1) increases the existing roadway width (curb-to-curb) of Wheatland Road to 48 feet to accommodate a continuous center turn lane, two travel lanes, and bicycle lanes along the entire length of the corridor. This alternative includes 6-foot-wide planter strips and sidewalks. This cross section is based on the City’s requirements for a street that is classified as a Minor Arterial in the City’s adopted TSP (see Figure 2). A more detailed aerial view concept drawing of the design alternative can be found in the Appendix.

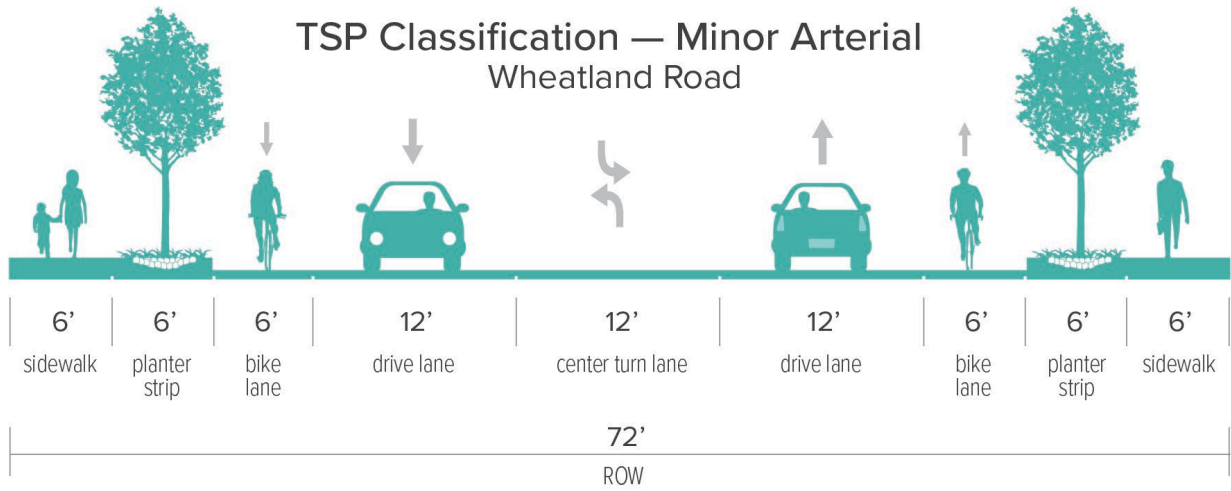


FIGURE 2: TSP STREET DESIGN

The table below shows a list of considerations for the Transportation System Plan (TSP) Street Design alternative.

TABLE 3: TRANSPORTATION SYSTEM PLAN (TSP) ALTERNATIVE CONSIDERATIONS

CATEGORY	NOTE
SAFETY	<ul style="list-style-type: none"> • Two-way center turn lane provides left-turn pockets at all intersections and driveways • Pedestrian must cross three-lanes of traffic at all locations • Wider curb-to-curb width results in increased speeds • Pedestrians have more separation from traffic through landscape strips • Lack of buffer zone next to bike lane puts bicyclists closer to vehicles
MOTOR VEHICLE OPERATIONS	<ul style="list-style-type: none"> • Provides a two-stage left-turn for vehicles turning out of side streets and driveways • Left-turning vehicles do not block through traffic on Wheatland Road • Operations meet City Level of Service (LOS) standard
PEDESTRIAN FACILITIES	<ul style="list-style-type: none"> • Consistent sidewalk presence with landscape buffer • New street lighting along the corridor and key pedestrian and school crossing locations • Opportunity for median refuge islands at school and pedestrian crossings • Sidewalks and curb ramps are ADA compliant
BICYCLE FACILITIES	<ul style="list-style-type: none"> • On-street bicycle lanes are present • No bicycle buffers or separated facilities are present
TRANSIT SERVICE	<ul style="list-style-type: none"> • Opportunity for improved bus stops (covered shelters, landings, etc.) • Street lighting
INFRASTRUCTURE & UTILITIES	<ul style="list-style-type: none"> • Because the curb-to-curb width must be widened beyond the existing curbs, this cross section has a significant impact to existing infrastructure and utilities • Opportunity to construct landscaped medians where turn lanes are not needed
RIGHT-OF-WAY	<ul style="list-style-type: none"> • The existing right-of-way varies between 60 – 72 feet. A minimum of 72 feet would need to be acquired. • Retaining walls would be needed near the south end of the corridor to provide the width needed for the cross section design
COST	<ul style="list-style-type: none"> • Preliminary cost estimate of \$7 million to \$9 million to construct (highest cost of the three build alternatives)

BUILD ALTERNATIVE #2: BUFFERED BIKE LANES STREET DESIGN

The Buffered Bike Lane alternative (Build Alternative #2) maintains much of the existing roadway width (curb-to-curb) of Wheatland Road (36 feet) to accommodate 2-foot-wide buffers for the 5-foot-wide bike lanes as shown in Figure 3. This alternative provides wider 8-foot-wide sidewalks along the entire length of the corridor on both sides of the roadway. The planter strip would vary between 5 feet and 10 feet depending on the available right-of-way. Alternative #2 maintains the two travel lanes. As previously discussed, a left-turn pocket at Russett Drive is needed and the cross section with the left-turn lane is shown in Figure 4. The full 72 feet of right-of-way would be required at Russett Drive to accommodate the northbound left-turn pocket. A more detailed aerial view concept drawing of the design alternative can be found in the Appendix.

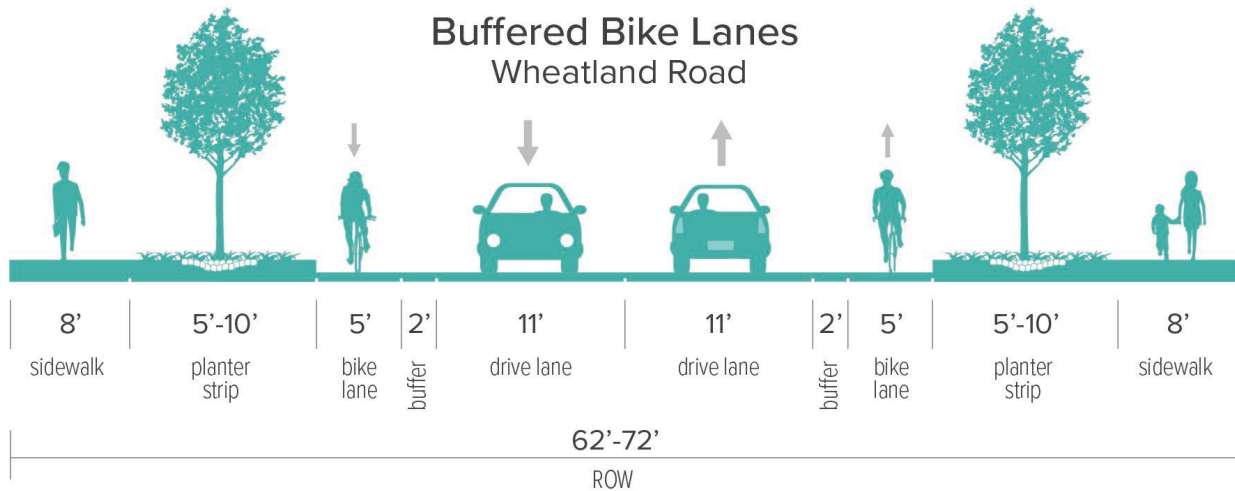


FIGURE 3: BUFFERED BIKE LANES CROSS SECTION

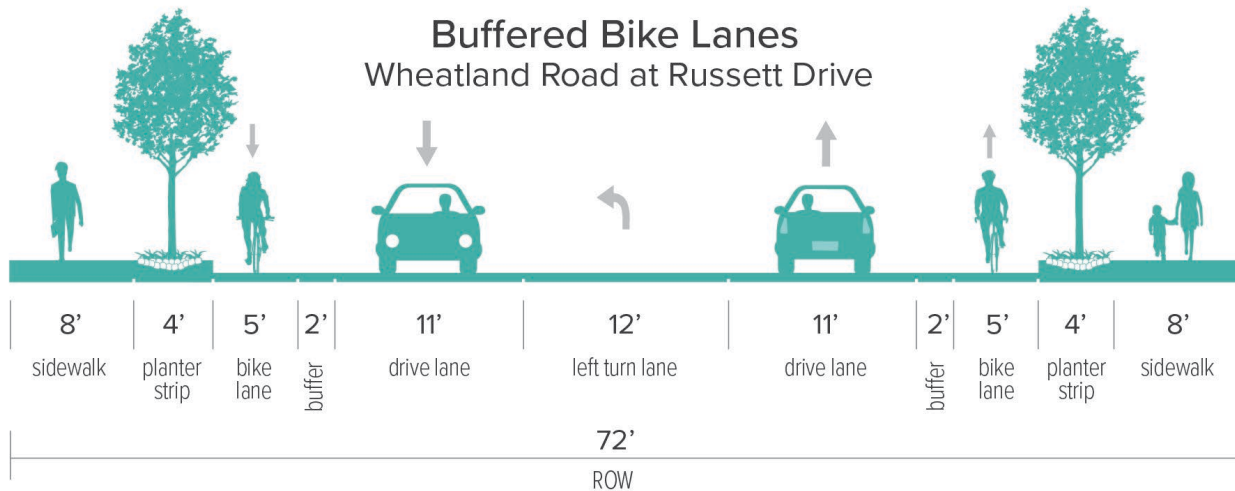


FIGURE 4: BUFFERED BIKE LANES CROSS SECTION (AT RUSSETT DRIVE)

The table below shows a list of considerations for the Buffered Bike Lanes Street Design alternative.

TABLE 4: BUFFERED BIKE LANES ALTERNATIVE CONSIDERATIONS

CATEGORY	NOTE
SAFETY	<ul style="list-style-type: none"> • Left-turn pocket provided at key intersection (Russet Drive) with crash history and operational/safety needs • Pedestrians and bicyclists have more separation from traffic through landscape strips and bike lane buffers
MOTOR VEHICLE OPERATIONS	<ul style="list-style-type: none"> • Maintains the existing two-lane roadway configuration, current travel times, and current travel speeds • Left-turning vehicles block travel lanes along the corridor • Operations meet City Level of Service (LOS) standard
PEDESTRIAN FACILITIES	<ul style="list-style-type: none"> • Consistent widened sidewalk presence (8' sidewalks compared to 6' in TSP alternative) • New street lighting • Opportunity for enhanced pedestrian crossings for nearby schools • Sidewalks and curb ramps are ADA compliant
BICYCLE FACILITIES	<ul style="list-style-type: none"> • On-street bicycle lanes are present (5 feet wide) • Bike lane buffers are present (2 feet wide), providing greater level of comfort for bicyclists
TRANSIT SERVICE	<ul style="list-style-type: none"> • Opportunity for improved bus stops (covered shelters, landings, etc.) • Street lighting
INFRASTRUCTURE & UTILITIES	<ul style="list-style-type: none"> • Because the existing curb-to-curb width can be maintained, this cross section has the least impact to existing infrastructure and utilities. • Retaining walls are needed near the south end of the corridor to provide the width needed for the cross section design.
RIGHT-OF-WAY	<ul style="list-style-type: none"> • The existing right-of-way varies between 60 – 72 feet. A minimum of 62 feet would be required for this cross section design (72 feet at Russett Drive).
COST	<ul style="list-style-type: none"> • Preliminary cost estimate of \$4 million to \$6 million to construct (lowest cost of the three build alternatives) • By maintaining the existing curb-to-curb width, savings are realized through less roadway reconstruction

BUILD ALTERNATIVE #3: BUFFERED BIKE LANES AND MULTI-USE PATH STREET DESIGN

The Buffered Bike Lanes and Multi-Use Path alternative (Build Alternative #3) maintains much of the existing roadway width (curb-to-curb) of Wheatland Road (36 feet) and is able to accommodate 2-foot-wide buffers for 5-foot-wide bike lanes as shown in Figure 5. This alternative provides 6-foot-wide sidewalks along the west side of the corridor and a 12-foot multi-use path on the east side of the corridor that can be used for both pedestrians and cyclists that are not comfortable riding adjacent to traffic on Wheatland Road. The multi-use path will result in more adults and younger users feeling comfortable walking and biking along Wheatland Road. The planter strip would vary between 5 feet and 9 feet depending on the available right-of-way. The Multi-Use Path alternative maintains the two travel lanes. A left-turn pocket at Russett Drive is needed and the cross section with the left-turn lane is shown in Figure 6. To accommodate a left-turn pocket and stay within 72 feet of ROW, the sidewalk and planter strip must be reduced by a foot. A more detailed aerial view concept drawing of the design alternative can be found in the Appendix.

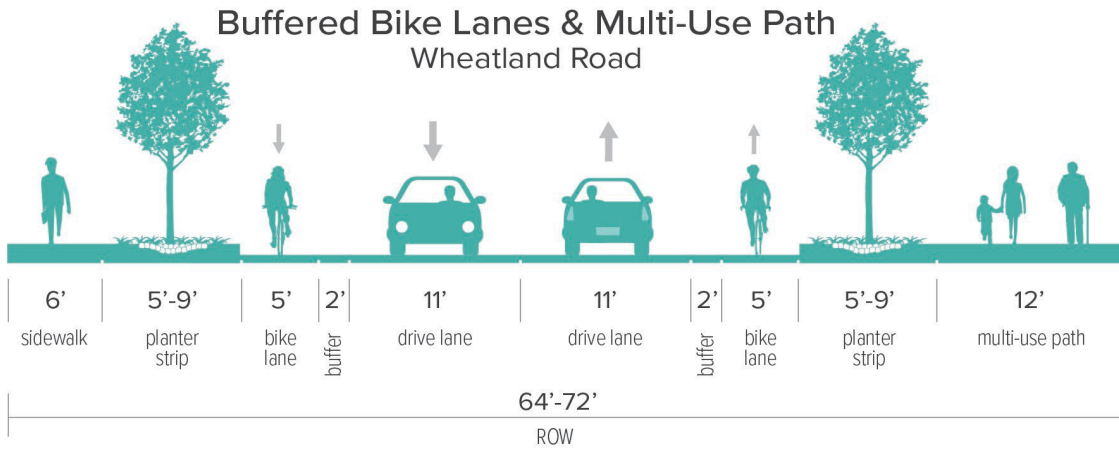


FIGURE 5: MULTI-USE PATH CROSS SECTION

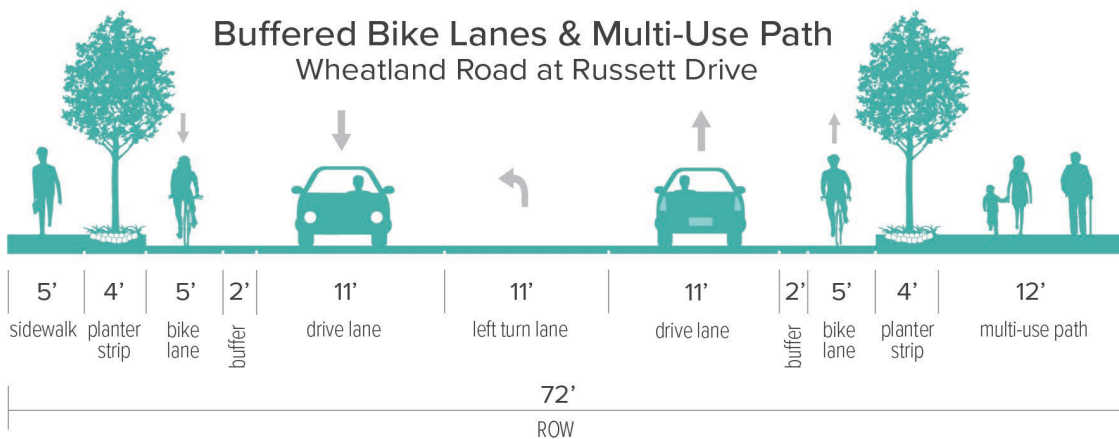


FIGURE 6: MULTI-USE PATH CROSS SECTION (AT RUSSETT DRIVE)

The table below shows a list of considerations for the Buffered Bike Lanes and Multi-Use Path Street Design alternative.

TABLE 5: BUFFERED BIKE LANES AND MULTI-USE PATH ALTERNATIVE CONSIDERATIONS

BUFFERED BIKE LANES AND MULTI-USE PATH ALTERNATIVE CONSIDERATIONS	
SAFETY	<ul style="list-style-type: none"> • Left-turn pocket provided at key intersection (Russet Drive) with crash history and operational/safety needs • Pedestrians and bicyclists have more separation from traffic through landscape strips and bike lane buffers
MOTOR VEHICLE OPERATIONS	<ul style="list-style-type: none"> • Maintains the existing two-lane roadway configuration, current travel times, and current travel speeds • Left-turning vehicles block travel lanes along the corridor • Operations meet City Level of Service (LOS) standard
PEDESTRIAN FACILITIES	<ul style="list-style-type: none"> • Multi-use path provides consistent, comfortable separated pedestrian facility along entire corridor • New street lighting • Opportunity for enhanced pedestrian crossings for nearby schools • Sidewalks and curb ramps are ADA compliant
BICYCLE FACILITIES	<ul style="list-style-type: none"> • Multi-use path provides a separated facility that accommodates all ages and abilities • On-street bicycle lanes are present (5 feet wide) • Bike lane buffers are present (2 feet wide), providing greater level of comfort for bicyclists
TRANSIT SERVICE	<ul style="list-style-type: none"> • Opportunity for improved bus stops (covered shelters, landings, etc.) • New street lighting
INFRASTRUCTURE & UTILITIES	<ul style="list-style-type: none"> • This cross section has less impact than the TSP Alternative, but slightly more impact than the Buffered Bike Lanes Alternative to existing infrastructure and utilities
RIGHT-OF-WAY	<ul style="list-style-type: none"> • The existing right-of-way varies between 60 – 72 feet. A minimum of 64 feet would be required for this cross section design (72 feet at Russett Drive). • Retaining walls are needed near the south end of the corridor to provide the width needed for the cross section design
COST	<ul style="list-style-type: none"> • Preliminary cost estimate of \$5 million to \$7 million to construct (Lower cost than TSP Alternative but higher cost than the Buffered Bike Lane Alternatives) • By maintaining the existing curb-to-curb width, savings are realized through less roadway reconstruction

SUMMARY OF ALTERNATIVES

A summary of Alternatives #1, #2, and #3 is provided in the Table 6 below. Various considerations for each alternative are compared with the No Build Alternative (Existing Configuration).

TABLE 6: ALTERNATIVES SUMMARY

Alternative	No Build Alternative (Existing)	Build Alternative #1 TSP	Build Alternative #2 Buffered Bike Lanes	Build Alternative #3 Buffered Bike Lanes & Multi-Use Path
MEDIAN / CENTER TURN LANE	None	12 feet center two-way center turn lane for entire corridor	Left-turn pocket provided at key intersection (Russet Drive)	Left-turn pocket provided at key intersection (Russet Drive)
BIKE FACILITIES	Bike Lanes	Bike Lanes	Buffered Bike Lanes	Buffered Bike Lanes and Multi-Use Path
PEDESTRIAN FACILITIES	Intermittent Sidewalks with frequent gaps	Consistent 6' Sidewalk	Consistent 8' Sidewalk	6' Sidewalk on west side and Multi-Use Path on east side
VEHICLE LOS^A AND DELAY	Meets City Standard	Meets City Standard	Meets City Standard	Meets City Standard
TRAVEL SPEEDS	43 mph – 45 mph (85th percentile)	Increased or similar travel speeds due to wider paved cross section	Speeds likely to be lower than No Build Alternative with narrowed lanes and street trees	Speeds likely to be lower than No Build Alternative with narrowed lanes and street trees
INFRASTRUCTURE & UTILITIES	No change	Has the largest impact	Has the smallest impact	Slightly less impact than the Alt #1, but more impact than Alt #2
RIGHT-OF-WAY	No ROW acquisition	Requires the most ROW acquisition (72')	Requires the least ROW acquisition (62' with 72' needed at Russett Drive)	Requires more ROW acquisition than Alt #2 and less than Alt #1 (64' with 72' needed at Russett Drive)
PRELIMINARY COST	-	\$7 - \$9 million	\$4 - \$6 million	\$5 - \$7 million

^A LOS = LEVEL OF SERVICE

PRACTICAL DESIGN CONSIDERATIONS

In the previous section, multiple cross section concepts were identified for the Wheatland Road corridor. However, as the project progresses from concept design into detailed design, some portions of the corridor will need to slightly deviate from the cross section designs shown in this report to save critical natural resources (mature oak trees, and other substantial trees); to minimize impacts to existing properties; and to reduce the cost for structures, such as retaining walls. The section contains some practical design considerations that can be implemented to reduce costs and preserve existing infrastructure and natural resources as the conceptual design progresses.

The table below shows some practical design considerations for the Wheatland Road corridor.

TABLE 7: PRACTICAL DESIGN CONSIDERATIONS

CONDITIONS	DESIGN CONSIDERATIONS
MATURE OAK TREES; OTHER TREES	<ul style="list-style-type: none"> • Construct meandering sidewalk to preserve existing trees
NEED FOR RETAINING WALLS	<ul style="list-style-type: none"> • Eliminate or reduce landscape strip • Eliminate bicycle buffer • Shift center line of street
ROW ACQUISITION	<ul style="list-style-type: none"> • Eliminate landscape strip • Eliminate bicycle buffer



FIGURE 7: CONCEPT OF PRATICAL DESIGN ON WHEATLAND

ENHANCED PEDESTRIAN CROSSING TREATMENTS

Enhanced pedestrian crossing treatments can be implemented with the selection of any of the concept design alternatives. Below are a few examples of enhanced pedestrian crossing treatments that can be considered at key locations along the corridor:

Treatments

- Median refuge island
- Raised crosswalks
- Enhanced signing and pavement markings
- Rectangular Rapid Flashing Beacons (RRFBs) at pedestrian crosswalks

Key Locations (See Figure 7)

- Clear Lake Road (School Crossing)
- Parkmeadow Drive (School Crossing)
- Russett Drive
- McNary Heights Drive/Foothill Court



FIGURE 8: RAISED CROSSING CONCEPT



FIGURE 9: RRFB CONCEPT



FIGURE 10: POSSIBLE PEDESTRIAN ENHANCEMENT LOCATIONS

MULTI-USE PATH INTERSECTION CROSSINGS

For the Multi-Use path, it is important that the path crossings at minor streets are more visible and safer than a standard intersection crossing because many of the users will be children or the elderly. There are two options for minor street crossings that can help improve visibility and safety of pedestrians and bicyclists using the Multi-Use Path.

- Raised crossing through minor street intersection (Figure 11)
- Street-level crossing with marked crosswalks (Figure 12)

Both options included a marked crosswalk to improve visibility and would place the stop bar for vehicles before the marked crosswalk. The raised crossing option also includes raising the crosswalk above the street-level to help bring more attention to the pedestrian and bicyclists crossing the street.

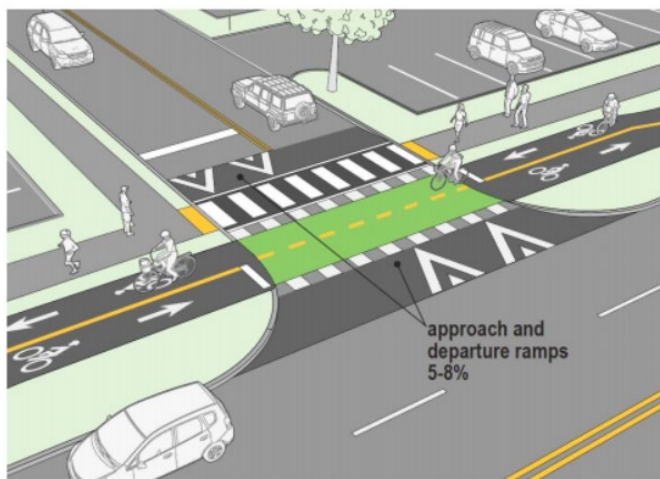


FIGURE 11: EXAMPLE OF RAISED CROSSING THROUGH MINOR STREET INTERSECTION



FIGURE 12: EXAMPLE OF STREET-LEVEL CROSSING WITH MARKED CROSSWALK

TRANSIT TREATMENTS

Transit bus stop treatments can be implemented with the selection of any of the concept design alternatives. The project team is coordinating with Cherriotics by presenting possible future treatment options. Below are a few examples of transit treatments that are being considered:

- Bus Stop Shelters
- Bus Stop “Concrete Bridge” (constructed over landscape strips or bioswales to provide ADA compliant boarding/deboarding)



FIGURE 13: CHERRIOTS BUS STOP SHELTER



FIGURE 14: CHERRIOTS BUS STOP “CONCRETE BRIDGE” EXAMPLE OF PRATICAL DESIGN ON PARKMEADOW

Currently, Cherriotics Route 9 travels in the southbound only direction on Wheatland Road. If two-way service were ever provided, bus stops on the east side of the street would also need to be provided. This should be considered during the detailed design phase of the corridor project.

Cherriotics will be conducting a needs assessment this this year to determine any deficiencies and needs in the Cherriotics public transit system for potential implementation in 2022. Route 9 will be analyzed during this process and there may be improvements identified and implemented depending on public feedback received.

STREET LIGHTING

Street lighting provides increased pedestrian and bicycle visibility during the night and the dawn/dusk periods of the day by providing contrast between the pedestrian and their surroundings.

The existing lighting along this corridor is limited, especially near school bus stops and crossings. Adequate street lighting will be implemented with the selection of any of the concept design alternatives. Improvements along the Wheatland Road Corridor could include new streetlight poles as well as supplemental lighting on utility poles.

ACCESS MANAGEMENT

Along the Wheatland Road study corridor, there are a total of 62 private driveways, with a higher density near the north end of the corridor. Most of these driveways do not have alternative access to other public streets, and Wheatland Road provides the only access to the property.

Managing access points/private driveways along a minor arterial requires finding an appropriate balance between safety, mobility, and land access. As vacant lands adjacent to Wheatland Road are developed, it is recommended that existing private driveways are removed, relocated, consolidated, or aligned with existing driveways and public streets to improve safety, eliminate conflict points with pedestrian and bikes, and improve mobility. It is also recommended that access spacing be considered as well. Per the City's Development Code⁹, accesses on arterial streets (public streets or driveways) shall be spaced no closer than 185-feet based on a posted speed of 40 mph.

TIER 1 SCREENING

The following section provides Tier 1 screening evaluation of the three design alternatives for Wheatland Road. The alternatives were scored using the Evaluation Criteria established in the Evaluation Criteria Memorandum.¹⁰ Evaluation criteria were established to assess the potential of alternatives to best meet the transportation needs and community goals for the Wheatland Road Corridor Study. The evaluation criteria are listed below.

- Neighborhood Livability
- Environmental
- Utilization of Existing Infrastructure
- Traffic Operations
- Safe Routes to School
- Safety
- Transportation Mode Choices/ Multimodal Connectivity
- Equity
- Convenient and Accessible Transit
- Cost Effective

The criteria were scored over a range of -2 to +2 as compared to the No Build (Existing Configuration) alternative. A score of 0 implies the alternative has no change from the existing, a negative score implies the alternative has worse conditions than existing, and a positive score implies the alternative has improved conditions than existing. The scoring weighs each criterion equally. Tier 1 screening is only intended to be a tool that helps guide the decision process; it does not select the preferred alternative based on the City's and Community's goals. The summary matrix that documents the results of the evaluation process can be found in the Appendix.

⁹ Page 320, Development Code, City of Keizer, Updated May 2020.

¹⁰ Evaluation Criteria – Memorandum #2, Wheatland Road Corridor Plan, DKS Associates, December 2020.

<u>ALTERNATIVE #1</u> TSP Street Design	<u>ALTERNATIVE #2</u> Buffered Bike Lanes	<u>ALTERNATIVE #3</u> Buffered Bike Lanes & Multi-Use Path
1.25	1.65	1.75

Alternative #1 scored an average of 1.25, Alternative #2 scored an average of 1.65, and Alternative #3 scored an average of 1.75. All three alternatives are shown to be an overall improvement from existing conditions. Alternatives #2 and #3 received relatively similar scores, indicating the need for the Keizer community to weigh in on their preference of design options.

The difference in scores between Alternative #1 and Alternatives #2 and #3 can be attributed to two basic differences amongst the designs. First, Alternatives #2 and #3 provide increasingly safer multimodal facilities. The buffered bike lanes and multi-use path are safe options for students going to/from school, bicyclists of all ages and abilities, and the general public, while also giving flexibility in transportation mode choice and accommodating all users and abilities. Secondly, Alternatives #2 and #3 have similar pavement cross section widths as the existing condition, meaning that road reconstruction would be less invasive than Alternative #1. More of the existing infrastructure could be utilized for Alternatives #2 and #3, also decreasing the total project cost.

APPENDIX CONTENTS

APPENDIX A: VIRTUAL OPEN HOUSE #1 FLYER A

APPENDIX B: FEEDBACK SURVEY – VIRTUAL OPEN HOUSE #1 B

APPENDIX C: DETAILED CONCEPT DRAWINGS (AERIAL VIEW) C

APPENDIX D: TIER 1 SCREENING MATRIX D

APPENDIX A: VIRTUAL OPEN HOUSE #1 FLYER

WHEATLAND ROAD CORRIDOR STUDY

VIRTUAL PUBLIC OPEN HOUSE #1

FEBRUARY/MARCH 2021



DO YOU DRIVE, WALK, BIKE, TAKE THE BUS, LIVE, OR WORK ON WHEATLAND ROAD?

If so, the City of Keizer wants your input at the first public open house!

WHEN AND WHERE IS THE FIRST PUBLIC OPEN HOUSE?

The first open house will be held virtually starting on February 15th, 2021. Please visit the website at www.keizer.org/WheatlandRoadMultimodalCorridorVirtualOpenHouse to participate and provide feedback through the online survey and comment map.

WHAT WILL BE PRESENTED?

The first public open house will present the following:

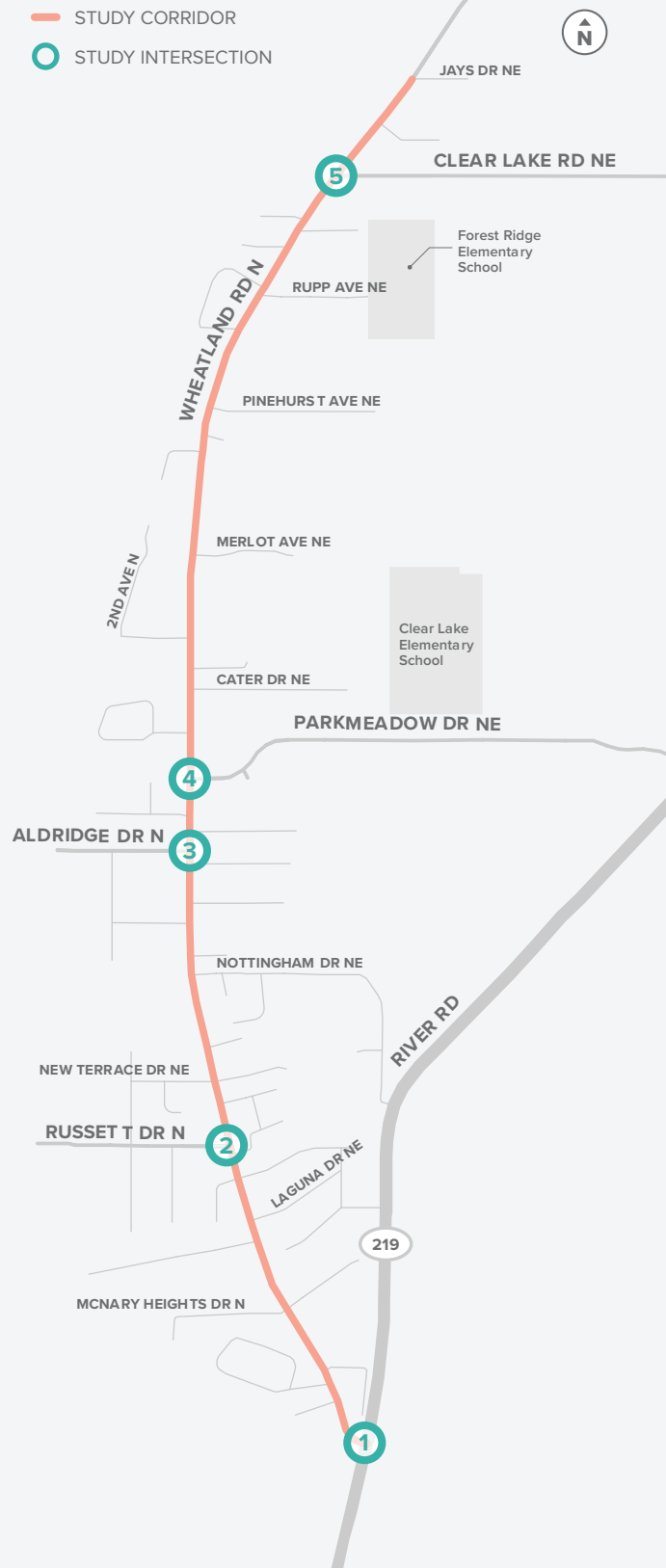
- existing and future transportation conditions of the 1.8-mile corridor between River Road and Jays Drive (map on the right)
- evaluation criteria used to assess future alternatives
- a snapshot of potential future pedestrian and bicycle enhancements

WHY IS THIS IMPORTANT?

The goal of the Wheatland Road Corridor Study is to develop a multimodal corridor plan and conceptual street design that removes barriers for all modes of travel, considers the latest urban safety improvements for pedestrians, bicycles, and transit facilities while creating an enjoyable experience for all users.

FOR FURTHER QUESTIONS ABOUT THIS PROJECT,
PLEASE FEEL FREE TO CONTACT US:

- BILL LAWYER, PUBLIC WORKS DIRECTOR
LAWYERB@KEIZER.ORG
- SCOTT MANSUR, CONSULTANT PROJECT MANAGER
SCOTT.MANSUR@DKSASSOCIATES.COM



APPENDIX B: FEEDBACK SURVEY – VIRTUAL OPEN HOUSE #1



Wheatland Road Multimodal Corridor Plan

Public Feedback Survey (Open House #1)

Thank you for providing your input on the Wheatland Road Multimodal Corridor project!

Feel free to answer as many or as few questions as you would like in this survey. You may want to refer to the [Poster Boards](#) and/or [Transportation Report](#) as you fill out the survey.

1. The goal of this project is to increase safety and mobility for all modes of travel. What level of improvement do you think these mode(s) of travel need?

	Does Not Need Improvement	Needs Some Improvement	Needs Significant Improvement
Vehicle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bicycle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Were there any key issues or deficiencies for any of the modes of transportation (walking, biking, transit, or vehicles) that we missed? If so, please explain.

3. If you have children that attend Salem-Keizer schools, how well does the Wheatland Road corridor provide safe access to school bus stops and nearby schools? What safety improvements would you recommend that would benefit school children?

4. What improvements would you recommend the City consider as part of the conceptual street design?

It could be an idea already shown on the "Toolbox" Poster Board or one of your own thinking.

5. What improvements would you recommend for an improved transit experience along Wheatland Road?

6. Which evaluation criteria are most important to you? Select up to FIVE from the list below.

- Neighborhood Livability
- Environmental
- Utilization of Existing Infrastructure
- Traffic Operations
- Safe Routes to School
- Safety
- Transportation Mode Choices/Multimodal Connectivity
- Equity
- Convenient and Accessible Transit
- Cost Effective

7. Are there other evaluation criteria that you feel are missing from the list above?

8. What modes of transportation do you currently use along Wheatland Road corridor? Check all that apply.

- Personal Vehicle
- Bicycle
- Walking
- Transit
- Other (please specify)

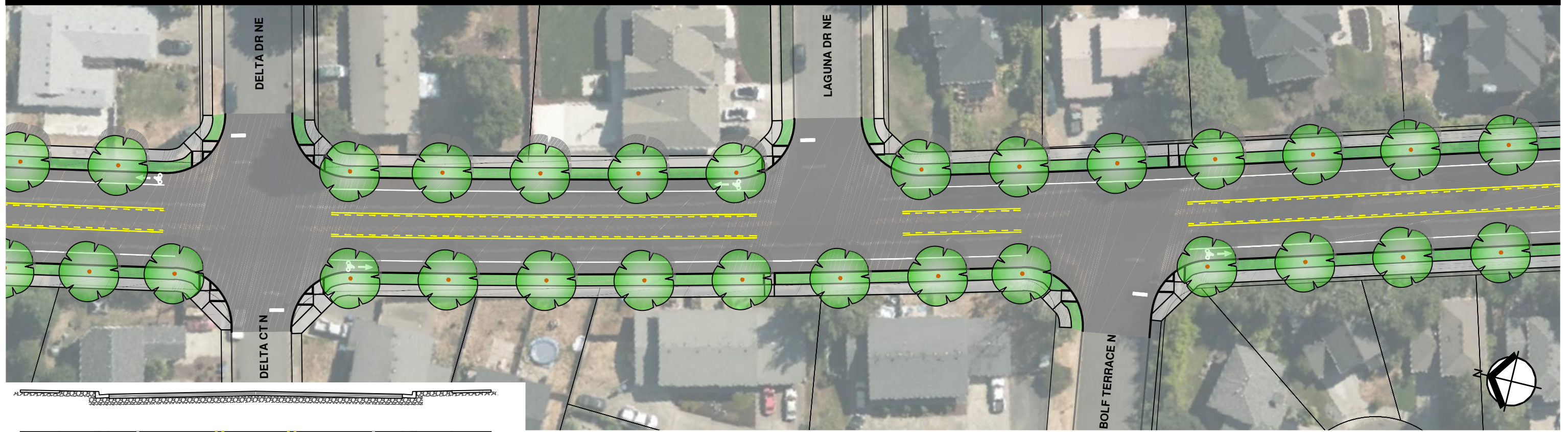
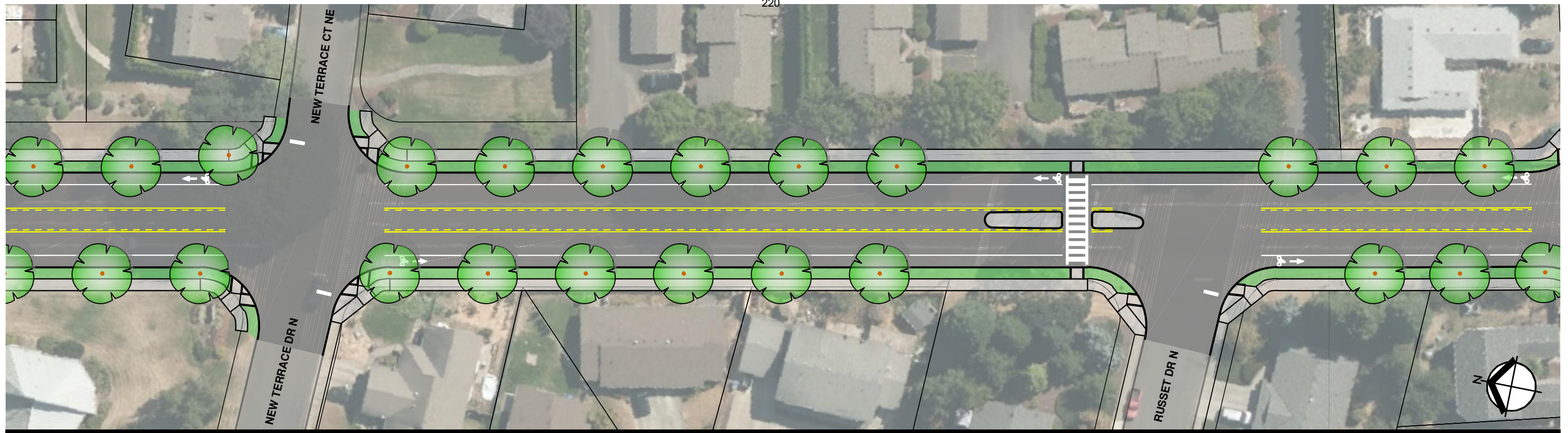
9. Of the transportation modes listed, are there any modes that you wish were safer or easier to use on Wheatland Road? Check all that apply.

- Personal Vehicle
- Bicycle
- Walking
- Transit
- Other (please specify)

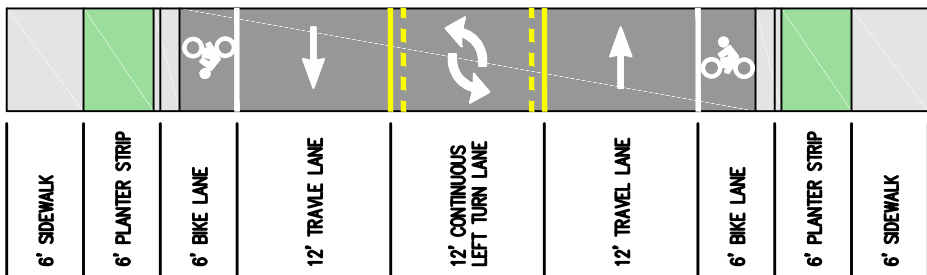
10. Would you be in support of a lower posted speed limit on Wheatland Road? For example, reducing the posted speed from 40 mph to 35 mph.

- Yes
- No
- I don't know

APPENDIX C: DETAILED CONCEPT DRAWINGS (AERIAL VIEW)



DATE: 5/10/2021



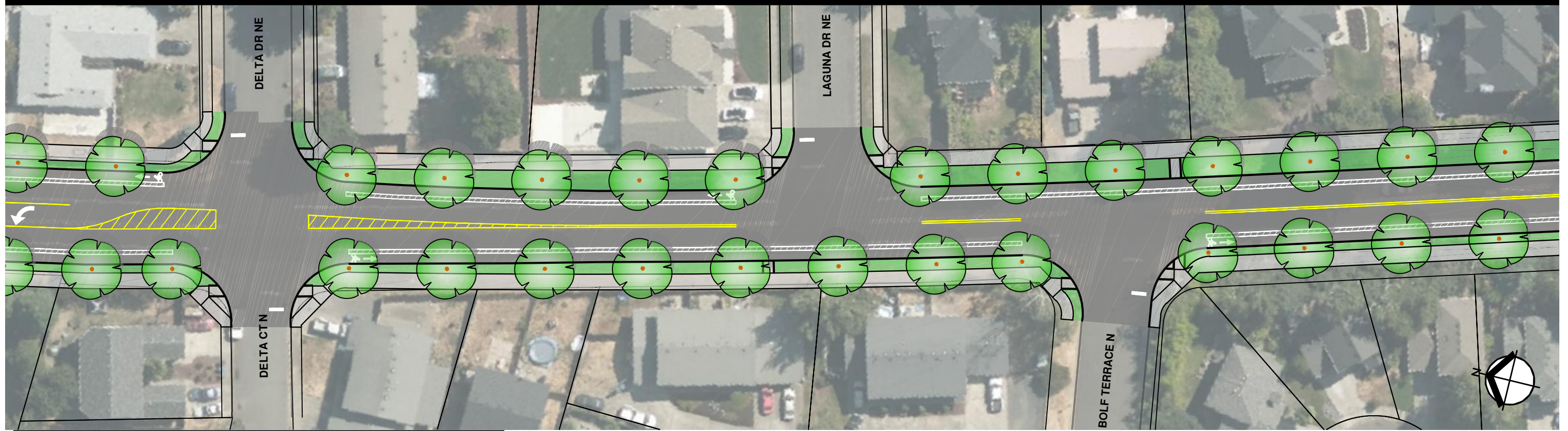
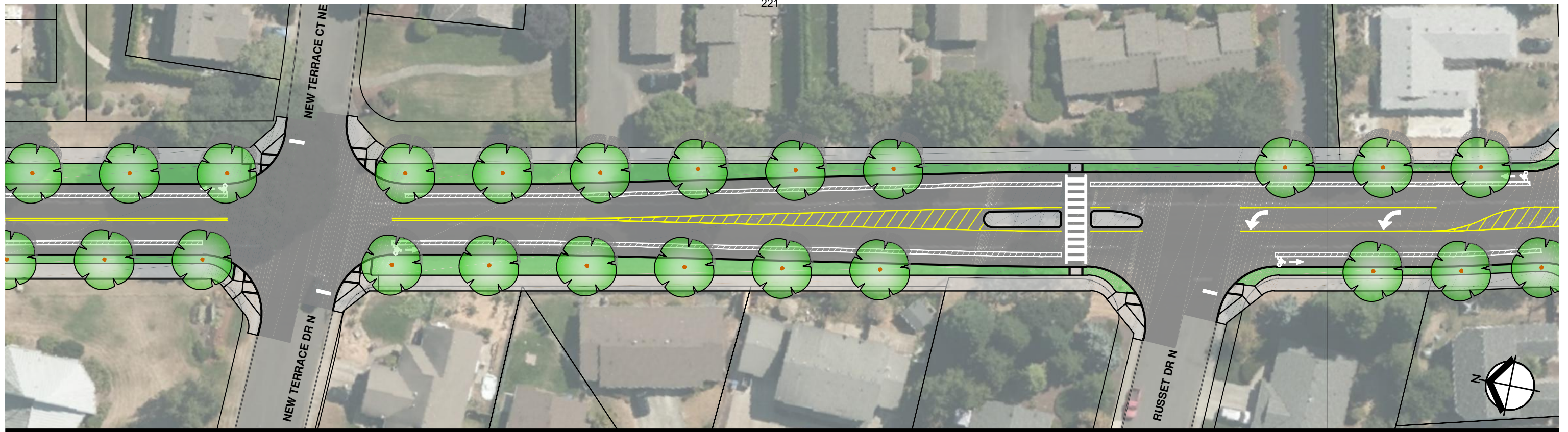
CONCEPT DRAWING - NOT TO SCALE



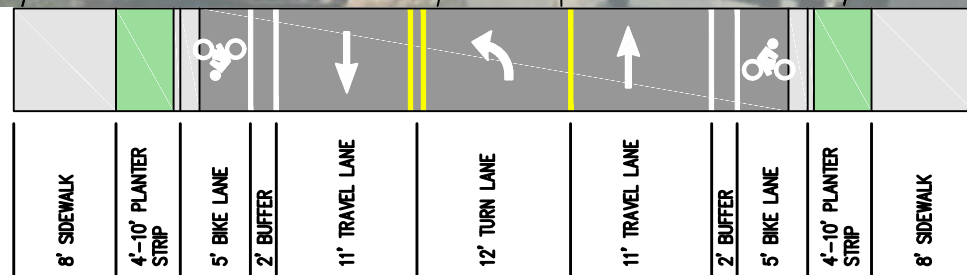
DESIGN ALTERNATIVE #1

WHEATLAND ROAD MULTIMODAL CORRIDOR

AKS ENGINEERING & FORESTRY, LLC
 3700 RIVER RD N, STE 1
 KEIZER, OR 97303
 503.400.6028 WWW.AKS-ENG.COM



DATE: 5/10/2021



CONCEPT DRAWING - NOT TO SCALE

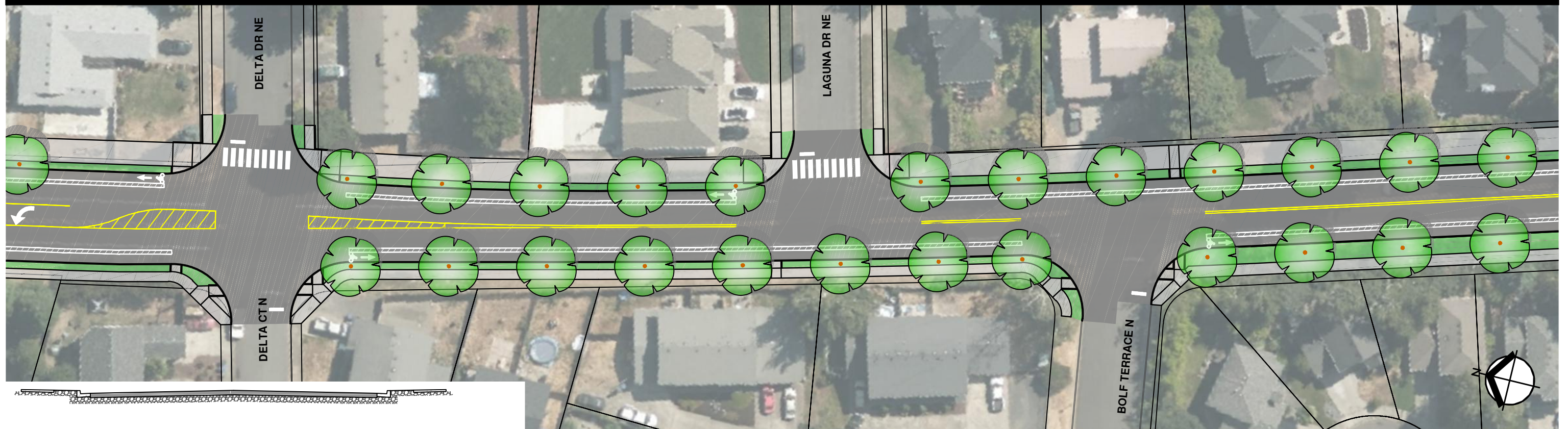
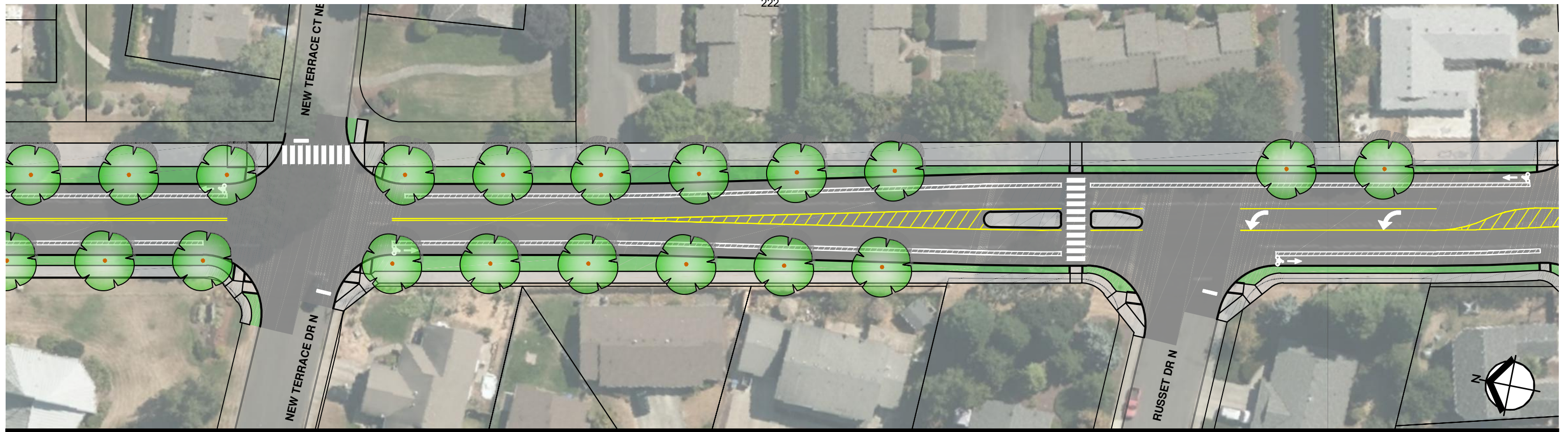


DESIGN ALTERNATIVE #2

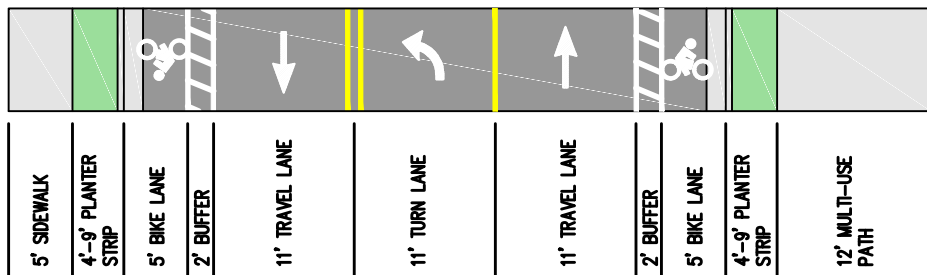
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DATE: 5/10/2021



CONCEPT DRAWING - NOT TO SCALE



DESIGN ALTERNATIVE #3

WHEATLAND ROAD MULTIMODAL CORRIDOR

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APPENDIX D: TIER 1 SCREENING MATRIX

	Alt 1: TSP Classification - Minor Arterial		Alt 2: Buffered Bike Lanes		Alt 3: Multi-use Path	
	Score	Comment	Score	Comment	Score	Comment
NEIGHBORHOOD LIVABILITY	1	Wider pavement width results in higher traffic speeds; Focus on connectivity with improved sidewalks and bike lanes; May not address all roadway users' needs.	1.5	Maintains the current two-lane cross section; Focus on connectivity with improved sidewalks and bike lanes; Includes buffered bike lanes for safer and more comfortable biking options.	2	Maintains the current two-lane cross section; Focus on connectivity with improved sidewalks and bike lanes; Includes buffered bike lanes and a multi-use path for safer and more comfortable biking options.
ENVIRONMENTAL	1	Requires removal of many existing trees and natural resources; More stormwater runoff; No major environmental issues; Can apply practical design approach.	2	Preserves existing trees and natural resources; Less stormwater runoff than other options; No major environmental issues, Can apply practical design approach.	1.5	Preserves existing trees and natural resources; Less stormwater runoff than Alt #1 but slightly more than Alt #2; No major environmental issues, Can apply practical design approach.
UTILIZATION OF EXISTING INFRASTRUCTURE	0	Widens curb-to-curb width for entire corridor from 32' - 36' to 48'.	1	Maintains most of existing curb-to-curb width, requires least right-of-way acquisition.	1	Maintains most of existing curb-to-curb width, requires more right-of-way acquisition than Alt #2.
TRAFFIC OPERATIONS	2	Increases capacity and queue storage at public street intersections and private driveways due to presence of center turn lane.	1.5	Continues to meet City LOS standards, with turn lane at key intersection.	1.5	Continues to meet City LOS standards, with turn lane at key intersection
SAFE ROUTES TO SCHOOL	1	Widens crossing distance across Wheatland, but does provide opportunity for median refuge islands. Provides continuous sidewalk along entire corridor.	1.5	Provides continuous sidewalk along entire corridor; Sidewalks wider than standard width (8 feet); Buffer between travel lane and bicycle lane increases rider comfort level.	2	Provides continuous sidewalk and multi-use path for all ages and abilities. Buffer between travel lane and bicycle lane increases rider comfort level.
SAFETY	1	For vehicles, it allows two-stage left turns out of side streets. For vulnerable road users, there are opportunities for RRFBs, median refuge islands, and raised crosswalks. But the wider roadway cross section width is detrimental for vulnerable road users.	1.5	Buffered bike lanes protect bicycles; Opportunities for RRFBs and raised crosswalks; Left turn lane key intersection; Some vulnerable roadway users may not want to bike in the street.	2	Buffered bike lanes protect bicycles; Includes ability for non-confident bicyclists to ride on the sidewalk (multi-use path); Opportunities for RRFBs and raised crosswalks; Left turn lane key intersection.
TRANSPORTATION MODE OPTIONS/ MULTIMODAL CONNECTIVITY	1.5	Provides service for all modes and continuous facilities along entire corridor.	1.5	Provides service for all modes and continuous facilities along entire corridor.	2	Provides service for all modes and continuous facilities along entire corridor, including the ability to bike along the multi-use path instead of the street.
EQUITY	2	Improved multimodal options for all users and populations.	2	Improved multimodal options for all users and populations.	2	Improved multimodal options for all users and populations.
CONVENIENT AND ACCESSIBLE TRANSIT	2	Opportunities for public transit bus stop treatments; adequate lighting; enhanced pedestrian crossings.	2	Opportunities for public transit bus stop treatments; adequate lighting; enhanced pedestrian crossings.	2	Opportunities for public transit bus stop treatments; adequate lighting; enhanced pedestrian crossings.
COST EFFECTIVE	1	Highest cost to construct.	2	Lowest cost to construct.	1.5	More costly to construct than Alt #2, but less than Alt #1.
TOTAL		1.25		1.65		1.75

05

TECHNICAL MEMORANDUM #4 TIER 2 EVALUATION AND SCREENING





MEMORANDUM #4

DATE: November 30, 2021

TO: Project Management Team

FROM: Scott Mansur, P.E., PTOE | DKS Associates
 Jenna Bogert, P.E. | DKS Associates
 Travis Larson, E.I. | DKS Associates

SUBJECT: Wheatland Road Corridor Plan - Tier 2 Evaluation and Screening P#20020-009

INTRODUCTION

This memorandum provides a comparison of the two alternatives for the Wheatland Road Multimodal Corridor Plan. These two alternatives were advanced for further analysis based on the results of the Tier 1 screening evaluation, public feedback from the second Virtual Open House, and direction from the Project Management Team (PMT).

For each of the two advanced alternatives, a full-corridor concept drawing is provided showing a conceptual layout of the proposed travel lanes, transit stops, sidewalks, bike lanes, landscaping, enhanced pedestrian crossings, and other roadway elements on Wheatland Road. This memorandum also contains a Tier 2 screening evaluation of both alternatives, which includes traffic operations, pedestrian and bicycle qualitative assessment, safety impacts, right-of-way impacts, and planning-level cost estimates. At the conclusion of the Tier 2 Screening Evaluation, a recommendation for the preferred Wheatland Road concept design is provided.

The following is contained in this memorandum.

INTRODUCTION..... 1

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RECOMMENDED ALTERNATIVE 20

VIRTUAL OPEN HOUSE #2 SUMMARY

The second Virtual Open House was held from July 23rd – August 8th (17 days). As with the first Virtual Open House, the second Virtual Open House were accessed through the City’s project website¹ and provided the public with digital posterboards, all technical documentation to-date, and a four-question feedback survey. See the Appendix for the four-question feedback survey that was provided to the community.

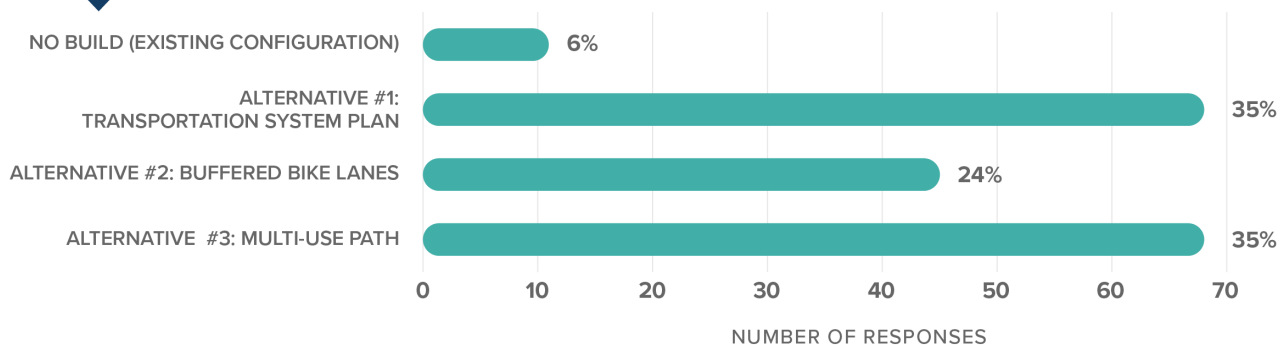
The goals of Virtual Open House #2 included:

1. Present the three conceptual design alternatives
2. Share the findings of the Tier 1 Screening Evaluation
3. Identify enhanced pedestrian crossing treatment opportunities
4. Gather community input on a preferred conceptual design alternative

Announcement of Virtual Open House #2 was made to stakeholders with Facebook, committee meetings, emails, and postcards. Postcards were delivered to over 2,600 individual residential and business addresses along the Wheatland Road corridor prior to the start of Virtual Open House #2.

There were over 740 website views of Virtual Open House #2 and 196 feedback surveys submitted. A few additional responses from the public were sent to City staff directly. The first and primary question of the survey was to hear from the community what Conceptual Design Alternative they preferred. The results of that question are shown in Figure 1.

CONCEPTUAL DESIGN ALTERNATIVE PREFERENCE – SURVEY RESULTS



The majority of responders (94.3 percent) favor making a change to the corridor over keeping the existing no build conditions. This displays the immense public support for this street project and the need to make changes to the corridor.

¹ <https://www.keizer.org/WheatlandRoadMultimodalCorridorPlan>

As for the alternative that was most favored, there was a close contest between Alternative #1 and Alternative #3, with 69 votes and 68 votes respectively. It is important to note, however, that Alternative #2 and #3 are very similar designs. If Alternative #2 was not an option, then it would be reasonable to suggest that most of the voters for Alternative #2 would have chosen Alternative #3 instead, making it the preferred alternative by the general public.

With the survey results, there were a wide range of general comments that were received regarding the project. Below are some direct comments from the surveys.

Desire for Safe and Connected Sidewalks and Bicycle Lanes: There was overwhelming support for safe and connected sidewalks and bicycle lanes.

- *"I am a moderately frequent walker along Wheatland and would feel much safer and more comfortable with the addition of continuous sidewalks. I occasionally bike along the route as well and the buffered bike lanes would be very nice."*
- *"Very excited to see this project in the works. I can't wait to have a continuous stretch of sidewalk along Wheatland!"*
- *"Alternative 3 will really transform the corridor. The 12' multiuse path will allow young children to travel along the corridor safely. I currently will not let my kids walk/bike along the corridor."*
- *"My priorities are sidewalks all along the corridor, safe walk routes to schools, and reduced speed limit on Wheatland."*
- *"We badly need sidewalks that are continuous. I love the idea of the wider multi-use lane for bikes, pedestrians, skateboards, etc."*

Need for Better Street Lighting: Many comments were made about street lighting. For all the proposed alternatives, cohesive and efficient street lighting is part of the concept drawings.

- *"Really all I want to see are more streetlights and sidewalks for the pedestrians."*
- *"Much, much more lighting. I believe there shouldn't be any dark patches between lights at night."*

Right-of-Way Concerns: There were many comments and concerns regarding land acquisition and right-of-way (ROW) impacts to property owners.

- *"I have a concern about being a homeowner that could be affected and how other homeowners will be affected as well for the ROW."*
- *"A two way left turn down the whole street is a huge waste of space; it is only needed at busy intersections."*
- *"I would prefer to keep land acquisition to a minimum."*

Maintainable Buffer/Planter Strips: A desire for balance between corridor aesthetics and realistic maintenance was shown. A range of opinions were shared about the proposed planter strips. The primary affirmative responses were in regard to better street aesthetics and the additional safety buffer. The primary unfavorable responses were in regard to the additional right-of-way and concerns about maintenance.

- *"Please no bushes or trees in the planter strip. Especially where there are driveways or side streets. It is too hard to see traffic."*
- *"Additional trees and plantings in a planter strip would do much for the aesthetics of the area."*
- *"Please consider the maintenance of the vegetation that is used. There are several areas where they are impeding into the sidewalk and I have to walk into the street to get around them."*
- *"Adding planting strips requires maintenance!"*

Speed on Wheatland Road: A range of comments were provided around the topic of speed on Wheatland Road. The majority of the comments were in favor of lowering the speed limit, some comments were in favor of maintaining the current speed limit. There were also comments on desiring better enforcement.

- *"Yes, this road is incredibly dangerous and we don't currently feel safe walking down it. Having more signage and precautions like slower speed limits to keep pedestrians safe would be awesome."*
- *"We live with Wheatland behind us and constantly hear and see cars going way too fast, above the already high speed limit."*
- *"Lower speed limit and enforce it."*
- *"We don't need reduced speed limits. We need enforcement of the speed limits already in place."*

REASONS FOR ADVANCING OR NOT ADVANCING ALTERNATIVES

Based on the results of the Tier 1 Screening (found in Technical Memorandum #3), feedback at Virtual Open House #2, and direction from the City, the existing configuration and three design alternatives were either advanced or not advanced to the Tier 2 Screening Evaluation for the following reasons. See the Appendix for the cross section of each alternative.

NO BUILD (EXISTING CONFIGURATION) – NOT ADVANCED

The No Build (Existing Configuration) scenario received the least number of votes from the public during the second Virtual Open House. In addition to having safety concerns for vulnerable roadway users like pedestrians, bicyclists, and students, this scenario is not consistent with the City’s transportation goals or the needs of the community and, therefore, was not advanced for further evaluation.

ALTERNATIVE #1: TRANSPORTATION SYSTEM PLAN (TSP) - ADVANCED

Alternative #1 shared the highest percentage of votes (approximately 35 percent), along with Alternative #3, based on the public feedback surveys. However, based on the results from the Tier 1 Screening Evaluation performed by the consultant and verified by the City, it scored lower than Alternatives #2 and #3. Although this design had low support based on the results of the Tier 1 Screening Evaluation, the alternative was supported by the public. Therefore, it was advanced to the Tier 2 Screening process.

This design provides two travel lanes with a two-way center left turn lane along the entire study corridor. Bicycle lanes, sidewalks, and planter strips are also provided on both sides of the road. In order to reduce right-of-way impacts and tree impacts, slight adjustments to the Alternative #1 cross section were made during the full-corridor conceptual design process (e.g., removal of landscape strip in constrained locations); these adjustments are depicted in the attached Full-Corridor Conceptual Design Layouts.

ALTERNATIVE #2: BUFFERED BIKE LANES - NOT ADVANCED

Alternative #2 received 23 percent of votes based on the public feedback surveys, placing third of the four options. The alternative scored second in the Tier 1 Screening Evaluation. Because Alternative #2 is very similar to Alternative #3, and Alternative #3 received more support from the public, Alternative #2 was not advanced to the Tier 2 Screening Evaluation.

ALTERNATIVE #3: MULTI-USE PATH AND BUFFERED BIKE LANES - ADVANCED

Alternative #3 shared the highest percentage of votes (approximately 35 percent) with Alternative #1 based on the public feedback surveys. Based on the results from the Tier 1 Screening Evaluation, it scored the highest of the other options. Because this design is supported by both public feedback and the Tier 1 Screening Evaluation, the alternative was advanced to the Tier 2 Screening Evaluation.

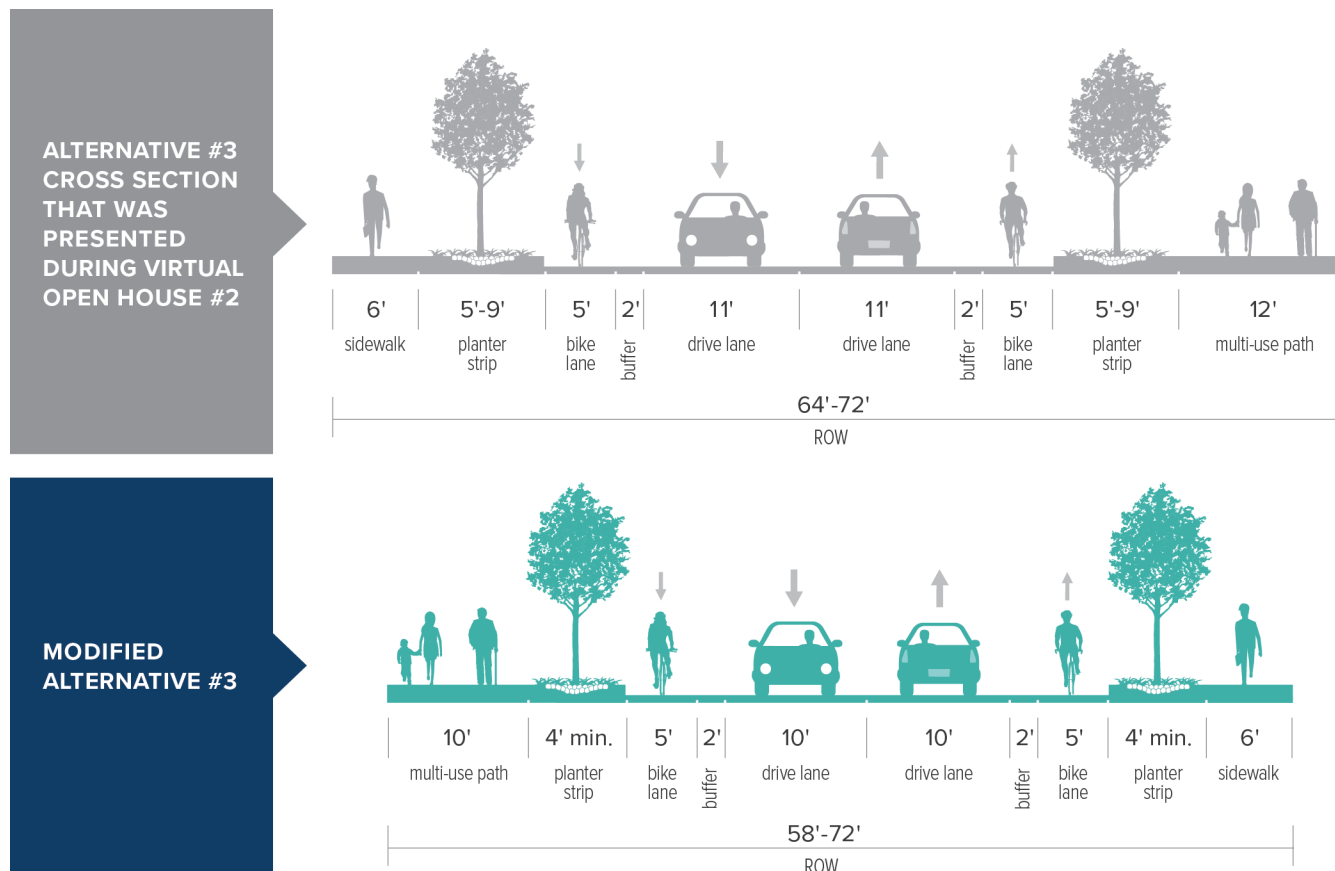
The proposed design included two travel lanes with buffered bicycle lanes, a 6-foot sidewalk on the west side of Wheatland Road, and a 12-foot multi-use path on the east side. In order to reduce right-of-way impacts and optimize cost savings, adjustments to the cross section were made through the full-corridor conceptual design process; these adjustments are depicted in the attached Full-Corridor Conceptual Design Layouts and discussed in the following section.

FULL-CORRIDOR CONCEPTUAL DESIGN LAYOUTS

This section contains a discussion of various design elements from the full-corridor conceptual design layouts for the two design alternatives that were advanced: Alternative #1 (Transportation System Plan) and Alternative #3 (Multi-Use Path and Buffered Bike Lanes). Refer to the Appendix to see the Full-Corridor Conceptual Design Layouts.

ADJUSTMENTS TO ALTERNATIVE #3: MULTI-USE PATH AND BUFFERED BIKE LANES

During the process of creating the full-corridor concept design layouts, the original cross section design for Alternative #3 was modified to better address the concerns voiced by the public during Open House #2. Many members of the public voiced their desire for the Wheatland Road project to minimize private property and right-of-way impacts and to provide safer, separated pedestrian and bicycle facilities for all users, including school-age children. Hearing this feedback, the Wheatland Road Technical Advisory Committee (TAC) did not think the original cross section for Alternative #3 provided sufficient separation for users of the multi-use path from the vehicle travel lanes. In order to provide more separation, the multi-use path was moved to the west side of the road where there is more available right-of-way. The width of the path was also reduced to 10 feet. These two modifications increased separation and reduced private property impacts.



During the cost estimating process, the TAC discussed ideas for improving cost savings for Alternative #3 to make the project more affordable. By reducing the travel lanes from 11 feet to 10 feet, a large cost savings was realized as the majority of the existing curb-to-curb width could be preserved along the corridor. Narrower travel lanes will also encourage lower vehicle speeds, which was another major concern of the public. However, with the adjacent 2-foot bicycle buffer, there is still adequate width for freight activity along the corridor.

ENHANCED PEDESTRIAN CROSSING TREATMENTS (KEY LOCATIONS)

Enhanced pedestrian crossing treatments are shown on both of the concept design layouts. Table 1 provides the type of enhanced pedestrian crossing treatments at the key locations along the corridor for each alternative. Treatments include new marked crosswalks, center medians, and/or Rectangular Rapid Flashing Beacons (RRFBs).

TABLE 1: ENHANCED PEDESTRIAN CROSSING TREATMENTS

ALTERNATIVE #1: TSP		ALTERNATIVE #3: MULTI-USE PATH	
Type	Location	Type	Location
RRFB* at School crosswalk with pedestrian refuge median	Clearlake Rd (south leg)	RRFB* at School crosswalk	Clear Lake Road (south leg)
RRFB* at School crosswalk with pedestrian refuge median	Parkmeadow Dr (south leg)	RRFB* at School crosswalk	Parkmeadow Dr (north leg)
Crosswalk with pedestrian refuge median	Russett Dr (north leg)	Crosswalk with pedestrian refuge median	Russett Dr (north leg)

* Rectangular Rapid Flashing Beacons (RRFBs) can be installed at locations where pedestrian volumes are frequent and meet a certain peak hour threshold. RRFBs are shown at Parkmeadow Drive and Clearlake Road for both Alternative #1 and Alternative #3. However, additional pedestrian count data will need to be collected as part of the street design process to confirm that an RRFB is warranted at these locations.

The presence of three travel lanes in Alternative #1 provides the opportunity to install a pedestrian refuge median at new or existing pedestrian crosswalks, allowing pedestrians to cross Wheatland Road in two stages. For Alternative #3, there is not enough roadway width to install pedestrian refuge medians, however, the total crossing width only requires pedestrians to cross two lanes of traffic. The exception to this for Alternative #3 is at Russett Drive where a northbound left-turn lane is proposed and there is sufficient width to install a pedestrian refuge median.

MULTI-USE PATH INTERSECTION CROSSINGS

For Alternative #3 (Multi-Use Path), it is important that the path crossings at minor streets are more visible and safer than a standard intersection crossing because many of the users will be children or elderly pedestrians. There were two options for minor street crossings that were presented to the public during Virtual Open House #2:

- Option #1: Raised Crossing
- Option #2: Street-Level Crossing

The public was asked to vote for their preferred multi-use intersection crossing type. The survey results showed that Option #1 and Option #2 had a similar percentage of votes, 39 percent and 41 percent, respectively. The remaining 20 percent of voters selected “no preference”. Since neither option was significantly preferred by the public, the street-level crossings (Option #2) was selected for the Full-Corridor Conceptual Design Layout of Alternative #3 with marked crosswalks across all public street approaches to Wheatland Road.

TRANSIT TREATMENTS

Transit bus stop treatments were shown on both of the Full-Corridor Conceptual Design Layouts. Both concept layouts show:

- Bus Stop Shelters or Benches at all current bus stop locations along Wheatland Road (see example to the right)
- Bus Stop “Concrete Bridges” at all current bus stop locations along Wheatland Road

There are four bus stops located along the west side of Wheatland Road, south of Parkmeadow Road. At these bus stop locations, the safety impacts of mixing transit users and bicyclists on the multi-use path (Alternative #3 only) have been considered. The safety of transit users and multi-use path users will be addressed by installing ADA landing pads, or “concrete bridges,” in the landscape strip to provide a designated loading space for transit users that does not conflict with multi-use path users (similar to what is shown in Figure 2).



FIGURE 2: BUS SHELTER ALONG RIVER ROAD IN KEIZER

Currently, Cherriots’ Route 9 travels in the southbound-only direction on Wheatland Road. If two-way service were ever provided on Wheatland Road, bus stops on the east side of the street would also need to be provided.

ODOT's current standard for streets with speed limits of 40 mph or higher is to construct bus pull-outs for any transit stops along those streets. It is recommended that the posted speed on Wheatland Road be re-evaluated after the construction of the corridor project to determine if 50th and 85th percentile vehicle speeds have changed and whether the roadway should be considered for a lower posted speed (i.e., 35 mph). If the vehicle speeds indicate that the 40 mph posted speed should remain, then bus pull-outs should be considered along the corridor to meet ODOT standard practice.

STREETSCAPE ELEMENTS

Street light improvements and street trees are included in both Full-Corridor Concept Design Layouts. The alignment of sidewalks and the multi-use path are intended to minimize the impact to adjacent properties, existing landscaping, and existing mature trees. Street trees plantings are shown in locations where existing trees are expected to be impacted or don't currently exist. New tree would be planted with spacing consistent with City standards within planter strips. Alternative #3 provides more opportunities for landscaped strips and street trees than Alternative #1.

Driveway crossings over the multi-use path for Alternative #3 and access for existing residences are one of the main differences between the layouts. Retaining walls are anticipated to be necessary in both Alternatives between Foothill Court NE and Laguna Drive NE; larger walls are expected for Alternative #1 to tie into existing topography.

UTILITIES

Widening for Alternative #1 impacts existing utilities more than Alternative #3. The following is a brief list of the notable differences:

- Alternative #1 creates more conflicts with existing utilities along the corridor.
- Alternative #1 creates more impervious surfacing, which impacts capacity of the storm drainage system.
- Alternative #1 requires moving existing catch basins further and extending piping to the new curb alignment.
- Alternative #1 will have more impact to existing water system. Existing fire hydrants and water meters will need to be relocated outside of the widened corridor.

In both alternatives, the existing overhead utilities will be placed on taller poles (60-foot utility poles) to avoid conflict with the planned street trees. Undergrounding the utilities was considered during the cost estimating process, but maintaining the overhead utilities was more cost-effective.

TIER 2 SCREENING

This section summarizes the Tier 1 screening criteria and methodology, as well as the Tier 2 screening criteria and evaluation for the two advanced alternatives. For the Tier 2 screening, the alternatives were scored using similar methodology as the Tier 1 screening, which can be found in Technical Memorandum #2. The combination of the Tier 1 and Tier 2 screening results will help guide the decision to determine the final recommended alternative.

TIER 1 CRITERIA:

- Neighborhood Livability
- Environmental
- Utilization of Existing Infrastructure
- Traffic Operations
- Safe Routes to School
- Safety
- Transportation Mode Choices/
Multimodal Connectivity
- Equity
- Convenient and Accessible Transit
- Cost-Effective

TIER 2 CRITERIA:

- Traffic Operations (delay, queuing, and speed)
- Pedestrian and Bicycle Qualitative Assessment
- Safety Impacts (including Safe Routes to School)
- Right-of-Way and Utility Impacts
- Planning-Level Cost Estimates

The two advanced alternatives were scored against the five identified criteria for Tier 2 based on the findings of the analyses in the following sections. Each of the criteria were scored over a range of -2 to +2 as compared to the No Build (Existing Configuration) alternative. A score of 0 implies the alternative has no change from the existing, a negative score implies the alternative has worse conditions or impacts than existing, and a positive score implies the alternative has improved conditions or impacts than existing. The scoring weighs each criterion equally.

TRAFFIC OPERATIONS

An evaluation of future traffic impacts of the advanced alternatives is discussed in the following sections, including intersection operations analysis, vehicle queuing, and corridor travel times. All reports are included in the Appendix.

Intersection Operations Analysis

The purpose of intersection analysis is to ensure that the transportation network remains within desired performance levels as required by City of Keizer operating standards for both of the advanced alternatives. The Future (2042) No Build intersection operations were already determined to meet the standards in Technical Memorandum #3.

The future traffic operations at the study intersections were determined for the AM and PM peak hours based on the 6th Edition Highway Capacity Manual (HCM) methodology for signalized and unsignalized intersections. Table 2 and Table 3 list the v/c ratio, delay, and Level of Service (LOS) for the No Build, Alternative #1, and Alternative #3.

TABLE 2: FUTURE (2042) INTERSECTION OPERATION SCENARIOS – AM PEAK HOUR

INTERSECTION	OPERATING STANDARD	NO BUILD (EXISTING CONFIGURATION)			ALTERNATIVE #1: TSP			ALTERNATIVE #3: MULTI-USE		
		V/C RATIO	DELAY	LOS	V/C RATIO	DELAY	LOS	V/C RATIO	DELAY	LOS
SIGNALIZED										
WHEATLAND RD/ RIVER RD	v/c ≤ 0.95	0.40	6.1	A	0.40	6.1	A	0.40	6.1	A
UNSIGNALIZED										
WHEATLAND RD/ RUSSETT DR	LOS E	0.13	11.1	A/B	0.13	11.0	A/B	0.13	11.1	A/B
WHEATLAND RD/ ALDRIDGE DR	LOS E	0.04	10.4	A/B	0.04	10.2	A/B	0.04	10.4	A/B
WHEATLAND RD/ PARKMEADOW DR	LOS E	0.07	11.7	A/B	0.07	11.1	A/B	0.07	11.7	A/B
WHEATLAND RD/ CLEAR LAKE RD	LOS E	0.08	10.2	A/B	0.08	10.2	A/B	0.08	10.2	A/B

SIGNALIZED INTERSECTION:

Delay = Average Intersection Delay (sec.)
v/c = Average Intersection Volume-to-Capacity Ratio
LOS = Average Intersection Level of Service

TWO-WAY STOP CONTROLLED INTERSECTION:

Delay = Critical Movement Approach Delay (sec.)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Level of Service (Major/Minor Road)

TABLE 3: FUTURE (2042) INTERSECTION OPERATION SCENARIOS – PM PEAK HOUR

INTERSECTION	OPERATING STANDARD	NO BUILD (EXISTING CONFIGURATION)			ALTERNATIVE #1: TSP			ALTERNATIVE #3: MULTI-USE		
		V/C RATIO	DELAY	LOS	V/C RATIO	DELAY	LOS	V/C RATIO	DELAY	LOS
SIGNALIZED										
WHEATLAND RD/ RIVER RD	$v/c \leq 0.95$	0.44	27.0	C	0.44	27.0	C	0.44	27.0	C
UNSIGNALIZED										
WHEATLAND RD/ RUSSETT DR	LOS E	0.12	12.4	A/B	0.11	11.7	A/B	0.12	12.3	A/B
WHEATLAND RD/ ALDRIDGE DR	LOS E	0.02	13.3	A/B	0.02	11.7	A/B	0.02	13.3	A/B
WHEATLAND RD/ PARKMEADOW DR	LOS E	0.16	16.4	A/C	0.13	13.5	A/B	0.16	16.4	A/C
WHEATLAND RD/ CLEAR LAKE RD	LOS E	0.14	11.4	A/B	0.14	11.4	A/B	0.14	11.4	A/B

SIGNALIZED INTERSECTION:

Delay = Average Intersection Delay (sec.)
v/c = Average Intersection Volume-to-Capacity Ratio
LOS = Average Intersection Level of Service

TWO-WAY STOP CONTROLLED INTERSECTION:

Delay = Critical Movement Approach Delay (sec.)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Level of Service (Major/Minor Road)

As shown, all of the study intersections meet the required operating standards for both Alternative #1 and Alternative #3. Overall, operations between the two advanced alternatives are very similar. However, intersections under Alternative #1 experience slightly lower delay and v/c ratios due to the addition of a left-turn pocket at all intersections. There is no significant difference in vehicle operations between the two alternatives.

Vehicle Queuing

In addition to future intersection operations, future queuing estimates were performed using SimTraffic™, which uses traffic simulation to estimate 95th percentile queues for the different movements at each intersection. The 95th percentile queue is the queue length for a given intersection movement that has only a five percent chance of being exceeded during the peak traffic hour, and it is standard engineering practice to use the 95th percentile queue length for determining the necessary storage distance and reporting estimated queue lengths. Traffic simulations were performed for the future morning (AM) and evening (PM) peak hours to estimate expected vehicle queuing.

Table 4 displays the 95th percentile queue length for key turning movement pockets at the study intersections during the AM and PM peak hours for the No Build, Alternative #1, and Alternative #3.

TABLE 4: FUTURE (2042) INTERSECTION QUEUE LENGTHS

INTERSECTION	LANE	NO BUILD (EXISTING CONFIGURATION)		ALTERNATIVE #1: TSP		ALTERNATIVE #3: MULTI-USE	
		AM	PM	AM	PM	AM	PM
UNSIGNALIZED							
WHEATLAND RD/ RUSSETT DR	Northbound Left	-	-	50 ft	75 ft	50 ft	75 ft
WHEATLAND RD/ ALDRIDGE DR	Northbound Left	-	-	50 ft	50 ft	-	-
WHEATLAND RD/ PARKMEADOW DR	Southbound Left	-	-	50 ft	50 ft	-	-
WHEATLAND RD/ CLEAR LAKE RD	Southbound Left	-	-	50 ft	50 ft	-	-

As shown, the queue lengths for both alternatives are the same at the Russett Drive intersection. Queue lengths are only shown for Alternative #1 at the other three intersections because this alternative has proposed left-turn pockets, of which all the queue lengths are an estimated 50 feet. There is no significant difference in queue lengths between the two alternatives.

Corridor Travel Times

Corridor travel time analysis was performed for the two advanced alternatives to provide a better understanding of how the overall corridor travel time operations would differ. These were then compared to the No Build (Existing Configuration) scenario. Table 5 displays the approximate travel times for the No Build, Alternative #1, and Alternative #3 for both the AM and PM peak hours. The corridor is defined as the approximately 1.7-mile stretch from Jays Drive to the north to Mistletoe Loop to the south. The final 500 feet between Mistletoe Loop and River Road was excluded due to randomness in modeling queuing from the River Road intersection that could skew results.

TABLE 5: FUTURE (2042) CORRIDOR TRAVEL TIMES – TOTAL SECONDS

INTERSECTION	NO BUILD (EXISTING CONFIGURATION)		ALTERNATIVE #1: TSP		ALTERNATIVE #3: MULTI-USE	
	AM	PM	AM	PM	AM	PM
NORTHBOUND	157	166	158	164	159	165
SOUTHBOUND	154	163	154	162	152	163

As shown, the travel times along the corridor for both alternatives are insignificantly different, with approximately less than a one percent variation (+/- two seconds) in the total travel times. Due to the variance in travel time model runs, any small difference of one percent is negligible in travel time; therefore, there is no significant difference in travel times between the alternatives.

PEDESTRIAN AND BICYCLE QUALITATIVE ASSESSMENT

A qualitative assessment of the walkability and bikeability of the study intersections, as well as all segments of the study corridor, was conducted for Alternative #1 and Alternative #3. Various aspects of walkability and bikeability were assigned one of the following ratings based on the recommended criteria in the ODOT Analysis Procedures Manual.

- "Excellent"
- "Good"
- "Fair"
- "Poor"

Table 6 displays a summary of the walkability and bikeability of each segment and study intersection under both Alternatives.

TABLE 6: QUALITATIVE GRADING OF WALKABILITY AND BIKEABILITY OF WHEATLAND ROAD

LOCATION	ALTERNATIVE #1 (TSP)		ALTERNATIVE #3 (MULTI-USE)	
	WALKING	BIKING	WALKING	BIKING
SEGMENTS				
RIVER ROAD TO LAGUNA DRIVE	Good	Good	Excellent	Good
LAGUNA DRIVE TO PARKMEADOW DRIVE	Good	Good	Excellent	Excellent
PARKMEADOW DRIVE TO 2 ND AVENUE	Good	Good	Excellent	Excellent
2 ND AVENUE TO JAYS DRIVE	Good	Good	Excellent	Excellent
STUDY INTERSECTIONS				
RIVER ROAD	Good	Good	Good	Good
RUSSETT DRIVE	Good	Good	Good	Good
ALDRIDGE DRIVE	Fair	Good	Fair	Good
PARKMEADOW DRIVE	Good	Good	Good	Good
CLEAR LAKE ROAD	Good	Fair	Good	Fair

For segments, Alternative #3 scored higher ("Excellent") compared to Alternative #1 ("Good") for walkability and bikeability due to the wide multi-use path and buffered bike lanes that are provided in Alternative #3 to accommodate bicyclists and pedestrians of all ages and abilities.

SAFETY IMPACTS

Safety improvements provide both the mitigation of the variables that influence crashes for current users of the system, as well as enhance the system to encourage usage from people who currently don't use it because of the safety risks.

Through the All Roads Transportation Safety (ARTS) program, Oregon Department of Transportation (ODOT) provides Crash Reduction Factors (CRFs) that provide guidance on the expected reduction of specific types of crashes for each treatment. As shared in Technical Memorandum #1, there were 54 reported crashes along the project corridor between 2014 and 2018. The majority of the crashes were rear-end crashes, there were no fatal crashes, and there were three pedestrian-related and one bicycle-related crash. The CRFs give estimated safety improvements through the reduction of crash variables for current users. Table 7 provides CRFs for some of the safety treatments proposed for each alternative.

TABLE 7: CRASH REDUCTION FACTORS FOR WHEATLAND ROAD

TREATMENT	TYPES OF CRASHES TREATED ^A	ODOT CRF VALUE(S) ^A	APPLICABLE FACTOR?	
			ALT #1	ALT #3
INSTALL TWO-WAY LEFT-TURN LANE	Rear End Crashes at All Severities	39%	✓	✗
ADD LEFT-TURN LANE ON SINGLE MAJOR ROAD APPROACH	All Crashes at All Severities	33%	✓	✓
INSTALL LIGHTING AT AN INTERSECTION	Night Crashes at All Injury Severities	38%	✓	✓
ADD STREET TREES	All Crashes at All Severities	10%	✓	✓
ADD SIDEWALK	Pedestrian – Walking Along Crashes at All Severities	20%	✓	✓
INSTALL RECTANGULAR RAPID FLASHING BEACON	Pedestrian Crashes at All Severities	10% - 56%	✓	✓
INSTALL PEDESTRIAN REFUGE ISLAND	Pedestrian Crashes at All Severities	31%	✓	✓
INSTALL BUFFERED BIKE LANES	Bicycle Crashes at All Injury Severities	47%	✗	✓
INSTALL URBAN GREEN BIKE LANES AT CONFLICT POINTS	Bicycle Crashes at All Severities	39%	✗	✓

Both Alternative #1 and Alternative #3 propose integrating many safety improvements that reduce crashes. For Alternative #1, the two-way left-turn lane (TWLTL) has been shown to reduce rear-end crashes (the highest crash type for the Wheatland corridor) by 39 percent. However, widening to a three-lane cross section increases the crossing distance for pedestrians. This extra crossing distance is mitigated at certain locations with the presence of the pedestrian refuge island, which allows pedestrians to more safely cross the street in two stages. For Alternative #3, there are

buffered bike lanes and green striping for bike lanes at conflict points, which have been shown to reduce bicycle crashes by 47 percent and 39 percent, respectively. This alternative also includes a pedestrian refuge island at Russett Drive where a left-turn lane is proposed.

A major theme of the public comments received during Virtual Open House #2 revolved around the safety and continuity of pedestrian and bicyclist facilities. Respondents shared their hesitancy with walking or biking along Wheatland Road due to the under-developed sidewalks and bicycle lanes located directly next to high-speed vehicles. While both Alternative #1 and Alternative #3 provide safer and fully connected walking and biking options, Alternative #3 provides the safest options. For bicyclists, the buffered bike lane provides additional shy space between the cyclist and motor vehicles. There is also the option to use the multi-use path for younger or less confident riders. For pedestrians, a 12-foot multi-use path provides extra space for pedestrians of all ages and mobility levels.

RIGHT-OF-WAY IMPACTS

A preliminary conceptual-level assessment was conducted to determine a rough estimate of right-of-way (ROW) needs for the two proposed alternatives. Approximately 85,000 square feet of right-of-way impacts are anticipated for Alternative #1. For Alternative #3, approximately 30,000 square feet of right-of-way impacts are anticipated. Note that these estimates do not include temporary construction easements that may be necessary.

The location with the largest impact for both alternatives is at the intersection with Clear Lake Road. Both properties on the north and south side of Clear Lake Road currently do not have a designated and limited point of access to Wheatland Road. As such, both currently use the ROW for parking and as a vehicle maneuvering area. Each alternative would require modification to existing vehicular use and circulation for these properties.

PLANNING-LEVEL COST ESTIMATES

Planning-level cost estimates were developed for both of the advanced alternatives with the design elements specified in this memorandum. The cost estimates, shown in Table 8, are planning-level estimates in 2021 dollars and are subject to change. Cost estimate details are in the Appendix.

TABLE 8: PLANNING-LEVEL COST ESTIMATES

ALTERNATIVE #1: TSP	ALTERNATIVE #3: MULTI-USE PATH
\$17.9 million	\$9.9 million

The main cost differences between Alternative #1 and Alternative #3 are related to the larger street width required for Alternative #1 and its associated impacts. Since the proposed design cross section for Alternative #1 is wider than Alternative #3, right-of-way needs are expected to be larger for Alternative #1. The larger roadway width will also result in greater impacts to the storm drainage system and existing utilities. It is anticipated that larger walls will be needed for Alternative #1 where it is necessary to tie into the existing topography between Foothill Court NE and Laguna Drive NE.

TIER 2 CRITERIA ANALYSIS SUMMARY

A summary of the findings from the Tier 2 criteria analysis are shown in Table 9.

TABLE 9: TIER 2 CRITERIA ANALYSIS SUMMARY

CRITERIA	ALTERNATIVE #1: TSP	ALTERNATIVE #3: MULTI-USE PATH
Traffic Operations (delay, queuing, and travel time)	Center-turn lane provides slightly improved vehicle operations over Alternative #3	-
Pedestrian and Bicycle Qualitative Assessment	Walkability and Bikeability Score: "Good" due to complete sidewalks and standard bike lanes	Walkability and Bikeability Score: "Excellent" due to the multi-use path, complete sidewalks, and buffered bike lanes
Safety Impacts	Two-way center-turn lane has the potential to reduce rear-end crashes by 39 percent Rear-end crashes were the most common along Wheatland Road in the last five years of crash data	Buffered bike lanes and green bicycle conflict striping have the potential to reduce bicycle crashes by 47 percent and 39 percent, respectively
Right-of-Way and Utility Impacts	—	Almost 3 times less ROW acquisition than Alternative #1 due to narrower cross section
Cost Estimates	—	Approximately half the cost to construct than Alternative #1 due to lesser impacts to existing infrastructure

TIER 1 & 2 SCREENING RESULTS

This section provides a summary of the Tier 1 and Tier 2 screening results for the two advanced design alternatives for Wheatland Road. The detailed Tier 2 summary matrix that documents the findings of the evaluation process can be found in the Appendix.

TIER 1 AND 2 SCREENING SCORES		
	ALTERNATIVE #1 TSP STREET DESIGN	ALTERNATIVE #3 BUFFERED BIKE LANES & MULTI-USE PATH
TIER 1 SCREENING	1.35	1.75
TIER 2 SCREENING	0.90	1.40
AVERAGE	1.13	1.58

Alternative #1 scored an average of 1.13 and Alternative #3 scored an average of 1.58 after both Tier 1 and Tier 2 screening. Both alternatives offer an overall improvement from existing conditions, however Alternative #3 received a higher score.

It is important to note that the tiered screening process is only intended to be a tool that helps guide the decision process and should be considered alongside City staff suggestions, advice from the technical advisory committee, and feedback from the community.

The difference in scores between Alternative #1 and Alternatives #3 can be attributed to two basic differences amongst the designs which were similarly seen in the Tier 1 screening process.

- First, Alternative #3 provides higher quality multimodal facilities (separated bicycle and pedestrian facility for all ages and abilities) and caters more to safety than mobility, without sacrificing any vehicular operational measures.
- Second, Alternative #3 has a pavement cross section width that is similar to the existing condition and will require less additional right-of-way. Therefore, the road reconstruction and property acquisition for Alternative #3 would be less invasive and cost less than Alternative #1.
- Additionally, Alternative #2 and Alternative #3 had similar feedback in Virtual Open House #2 where the majority of the general public favored either Alternative #2 or Alternative #3 (59 percent combined) over Alternative #1 (36 percent). This indicates that there is greater support from the public for the improvements proposed in Alternative #3.

RECOMMENDED ALTERNATIVE

Based upon the results of the Tier 2 screening process, City comments, and public input, DKS recommends the following alternative for the Wheatland Road corridor:

Alternative #3: Multi-Use Path and Buffered Bike Lanes

Alternative #3 is best suited to meet the needs and desires of all users of the Wheatland Road corridor, while costing less and requiring less right-of-way and property impacts than the other alternative. This solution provides a safer system with multimodal travel options and was the preferred alternative by the general public. It maintains the current level of traffic demand and is estimated to adequately accommodate future levels of traffic 20 years into the future.

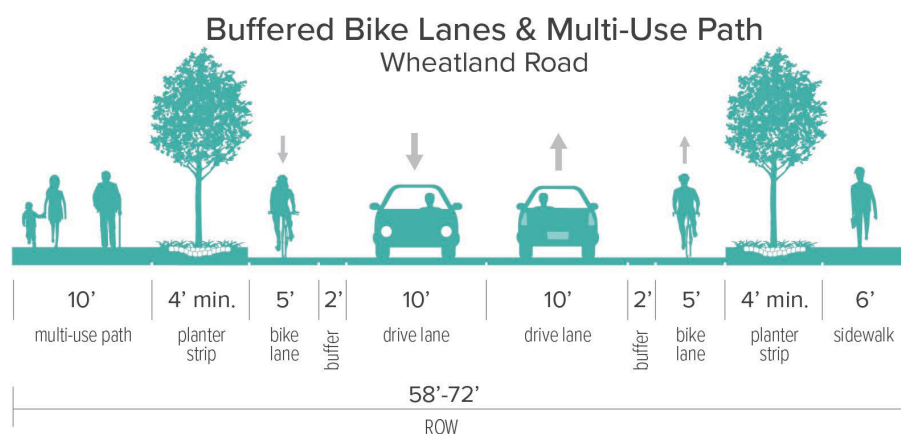


FIGURE 3: RECOMMENDED DESIGN ALTERNATIVE CROSS SECTION

POSTED SPEED LIMIT ON WHEATLAND ROAD

Based on speed data collected during the existing conditions analysis, the 85th percentile speed along Wheatland Road ranges from 43 to 45 mph and the 50th percentile speeds range from 37 to 40 mph. Until recently, ODOT established speed limits based on 85th percentile speeds. However, in May 2020, ODOT approved a new speed zoning process, which allows local governments to post speed limits within +/- 5 mph of the 50th percentile speeds and also consider the road's land use context.² Based on the new ODOT process, the suggested speed limit along arterials located in suburban commercial and residential areas is 30 to 35 mph.

It is recommended that the 50th and 85th percentile speeds be collected after the Wheatland Road project is built and the corridor be evaluated for a lower posted speed limit based on the new Speed Zoning Process.

² <https://www.oregon.gov/odot/Engineering/Pages/Speed-Zones.aspx>

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APPENDIX A: FEEDBACK SURVEY – VIRTUAL OPEN HOUSE #2

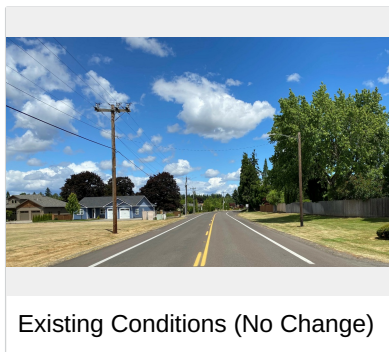
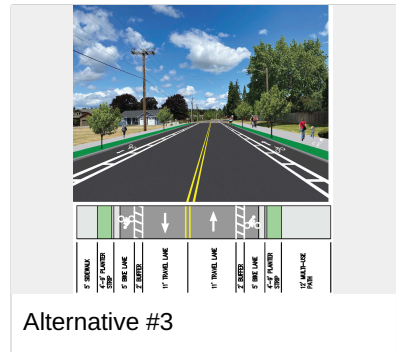
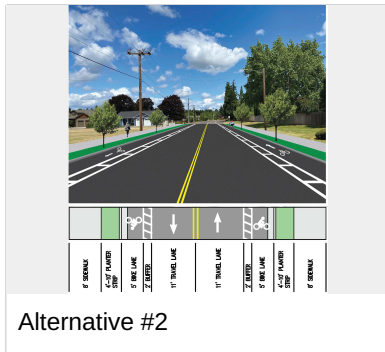
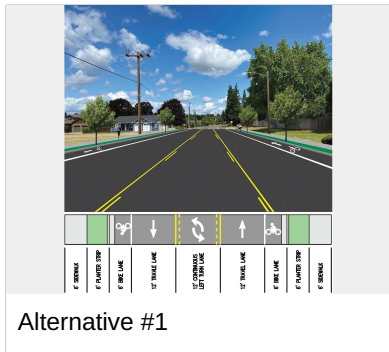


Wheatland Road Multimodal Corridor Plan

Public Feedback Survey (Open House #2)


Thank you for providing your input on the Wheatland Road Multimodal Corridor project!
This survey should only take a few minutes to complete.

1. Which **Conceptual Design Alternative** do you prefer? Click [here](#) for a comparison of the alternatives.




2. If you chose Alternative #3 in the previous question, which multi-use path [side street crossing](#) would you prefer to see?

OPTION 1: RAISED CROSSING THROUGH MINOR STREET INTERSECTIONS



Option #1: Raised Crossing

OPTION 2: STREET-LEVEL CROSSING WITH MARKED CROSSWALK



Option #2: Street Level Crossing

No Preference

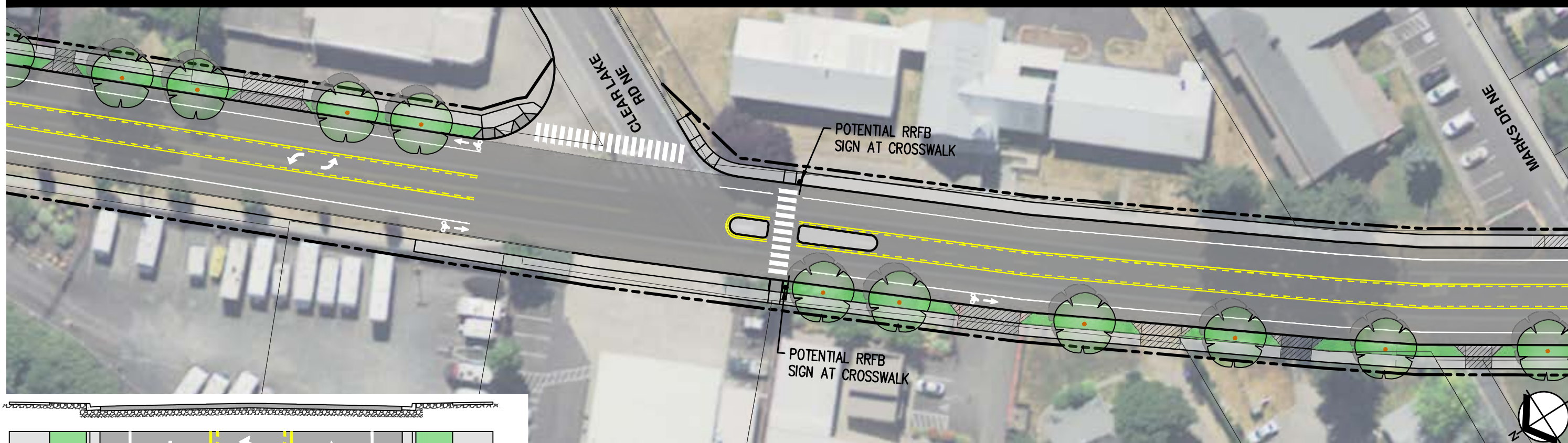
3. Take a look at the proposed [Enhanced Pedestrian Crossing Treatments](#). Would you like to see these types of improvements on Wheatland Road (RRFBs, median islands, warning signage, etc)? Why or why not?

4. Any other comments?

APPENDIX B: FULL-CORRIDOR CONCEPTUAL DESIGN LAYOUTS



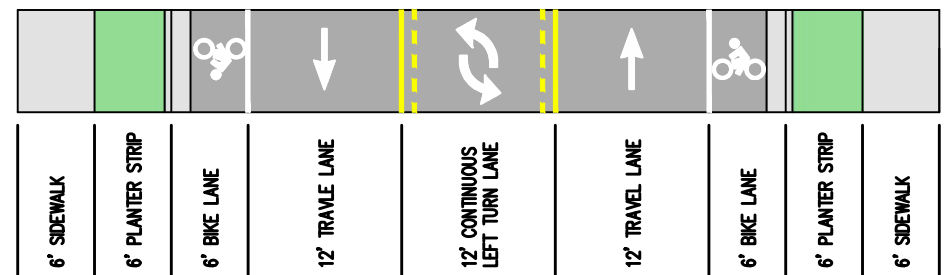
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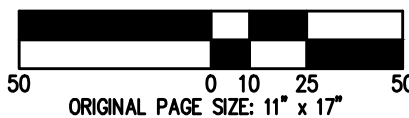


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LEGEND



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DESIGN ALTERNATIVE #1

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AKS ENGINEERING & FORESTRY, LLC
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 503.400.6028 WWW.AKS-ENG.COM

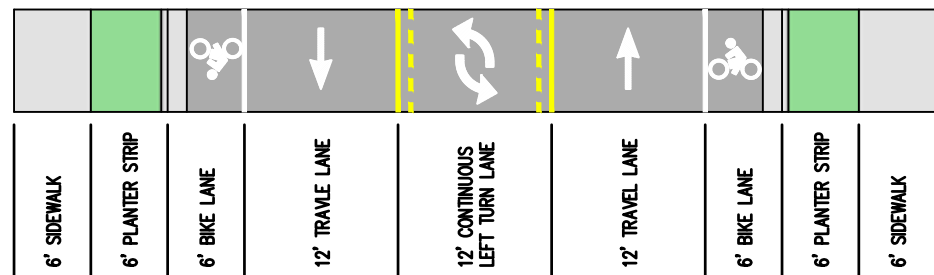
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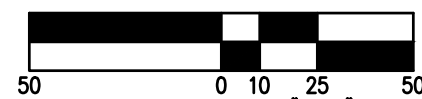
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PROPOSED STREET TREE



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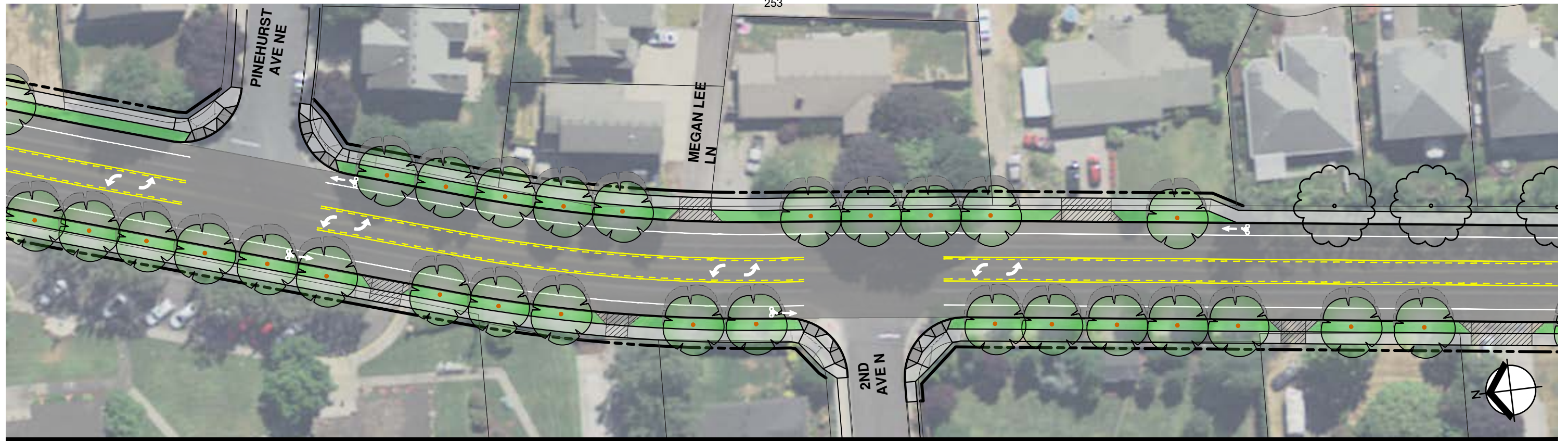
DESIGN ALTERNATIVE #1

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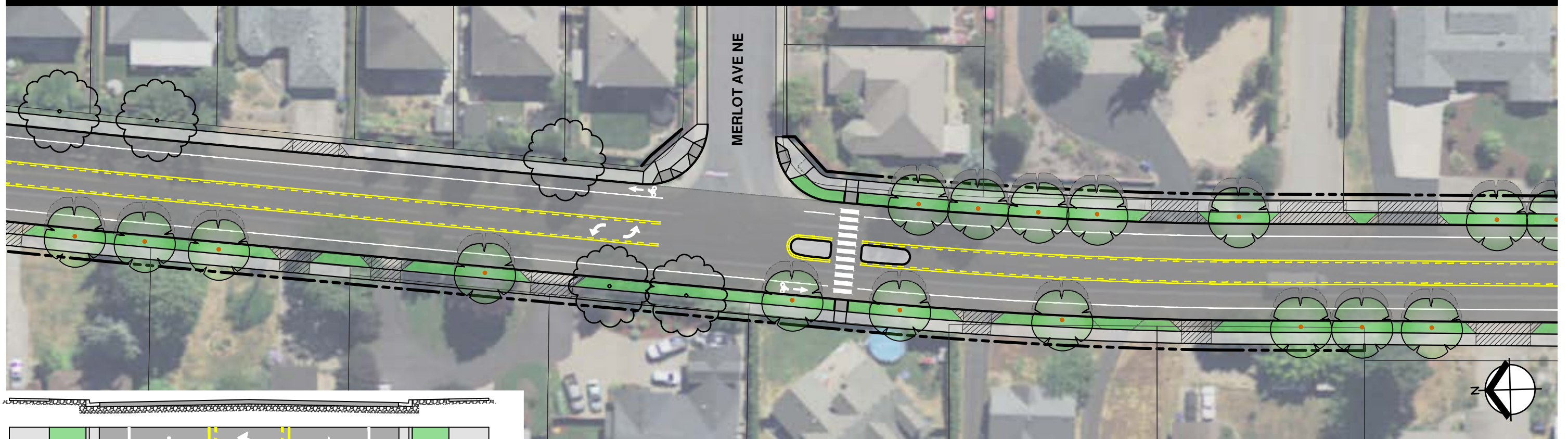


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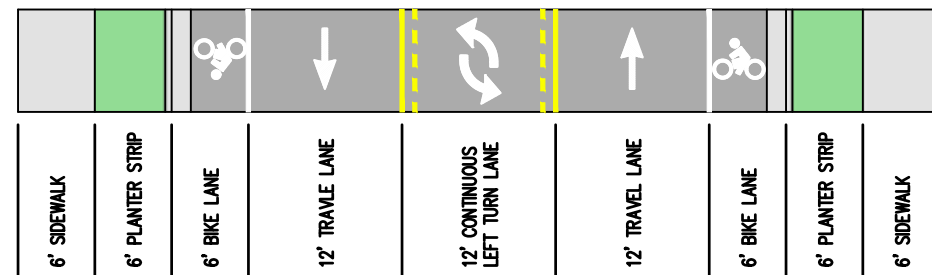


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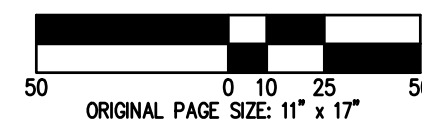


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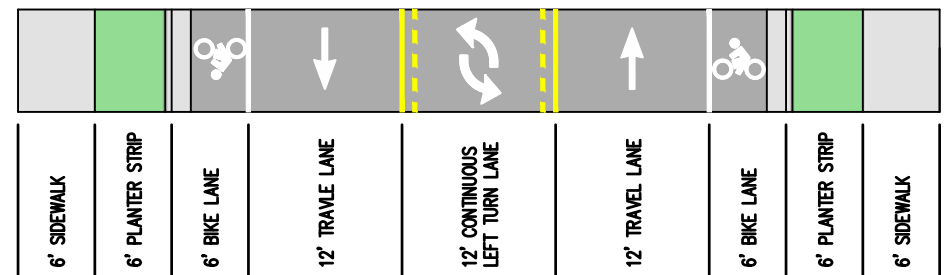
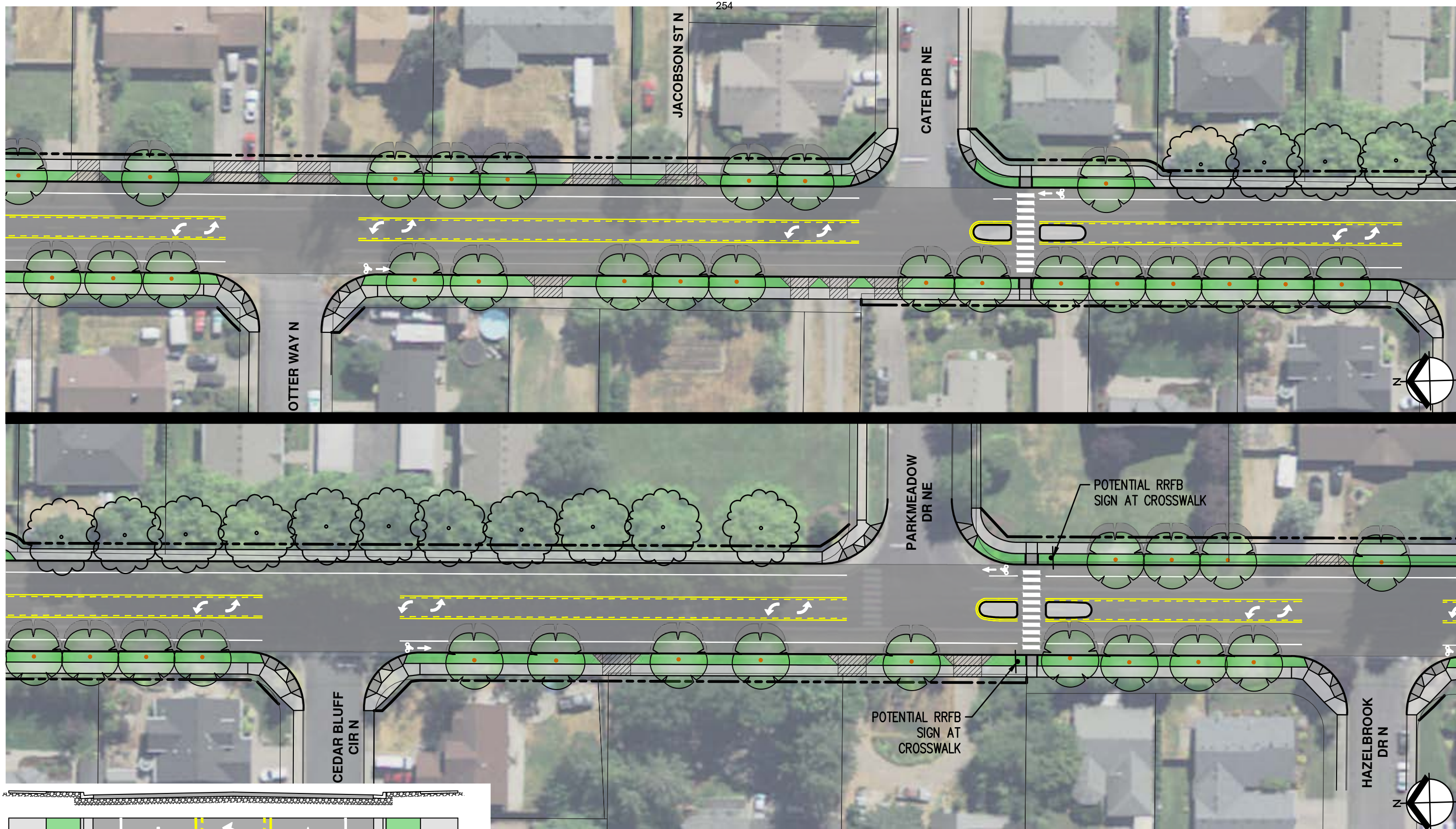


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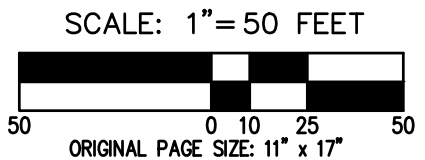
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- PROPOSED STREET TREE



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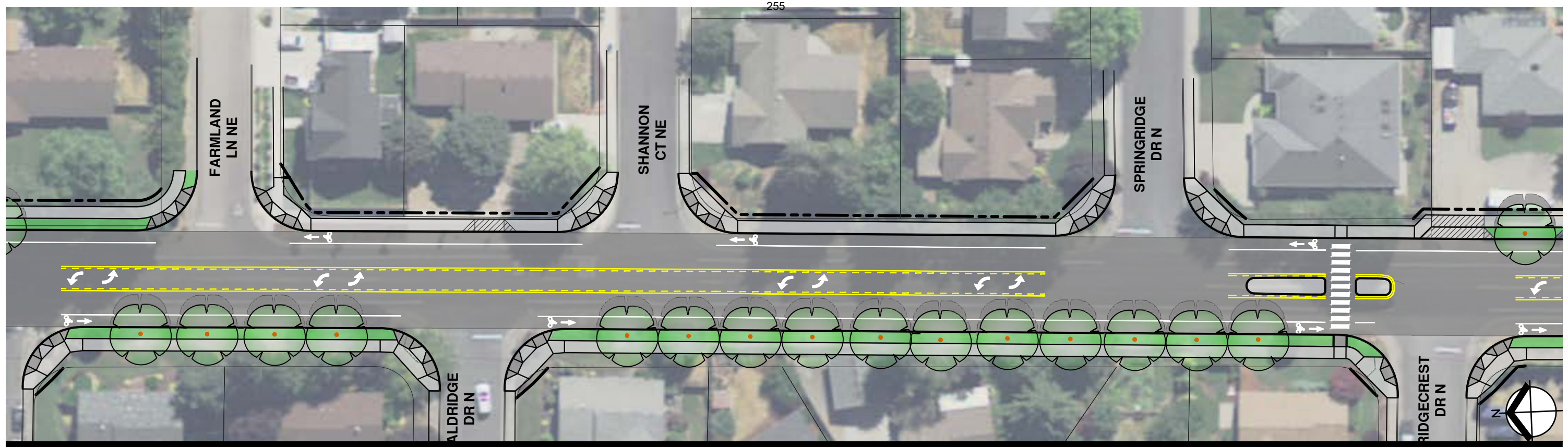
DESIGN ALTERNATIVE #1

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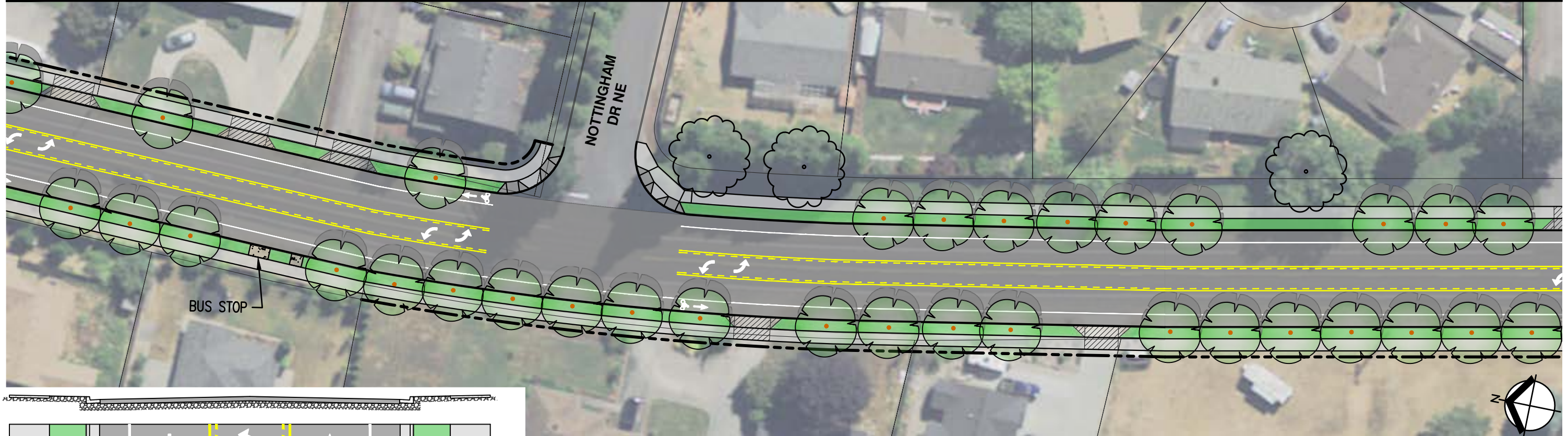
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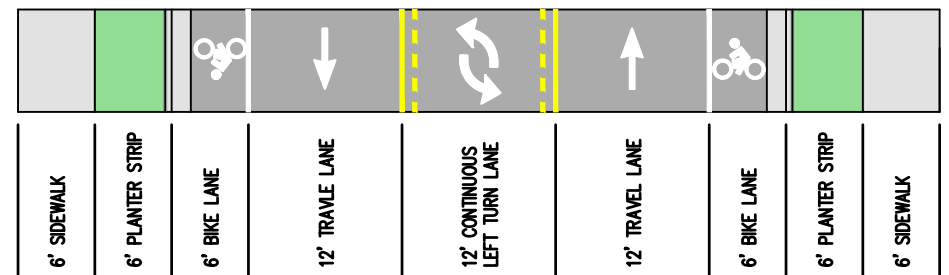


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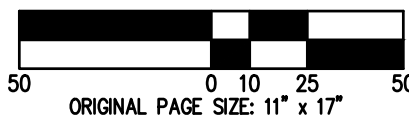


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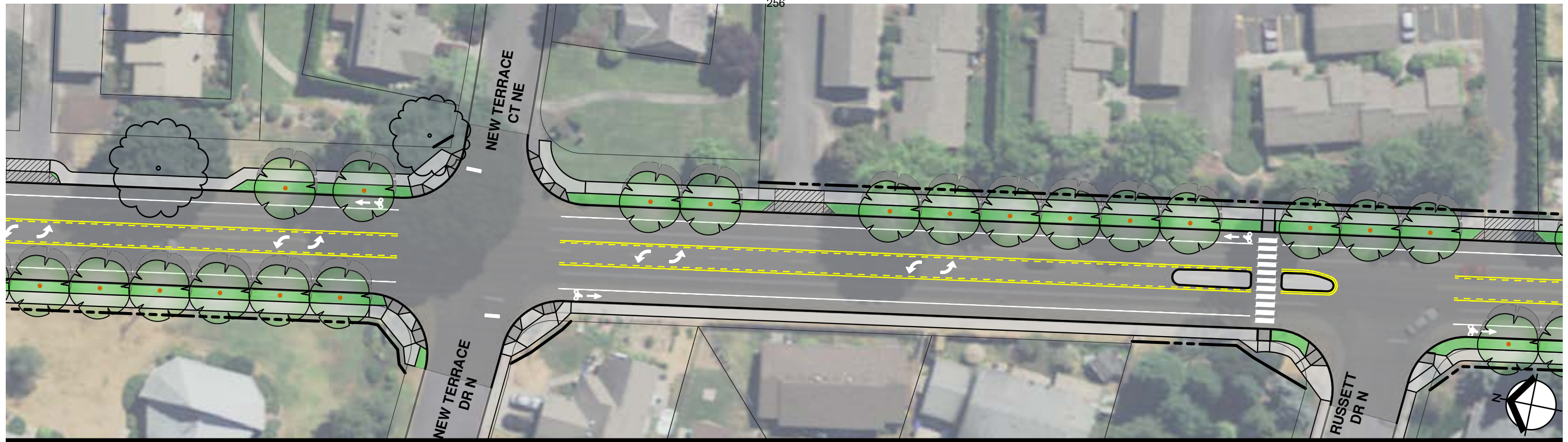


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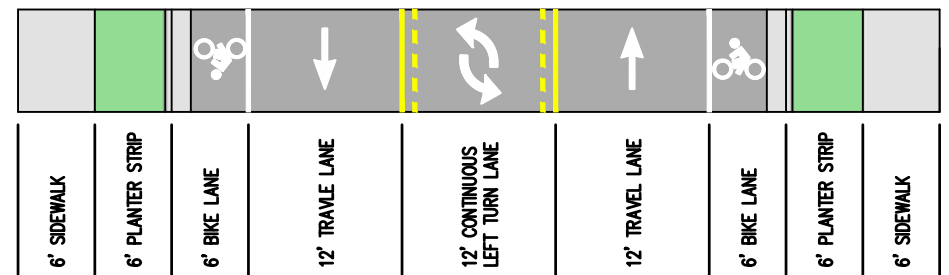
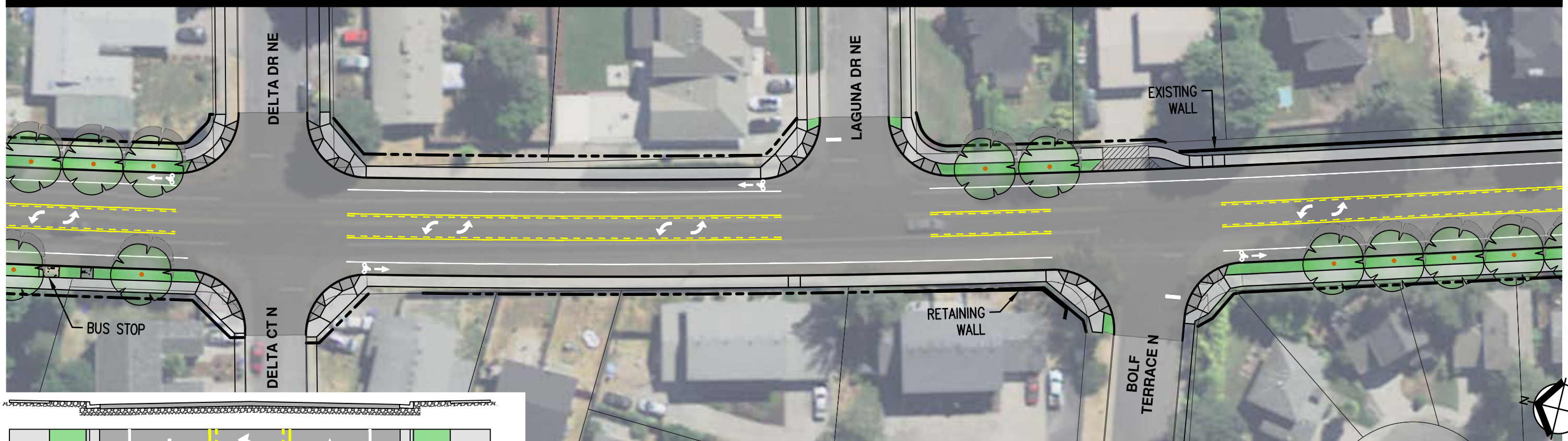
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SEE BELOW FOR CONTINUATION



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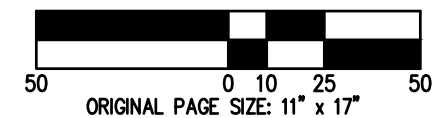


CONCEPT DRAWING - NOT TO SCALE

LEGEND



SCALE: 1" = 50 FEET



ORIGINAL PAGE SIZE: 11" x 17"

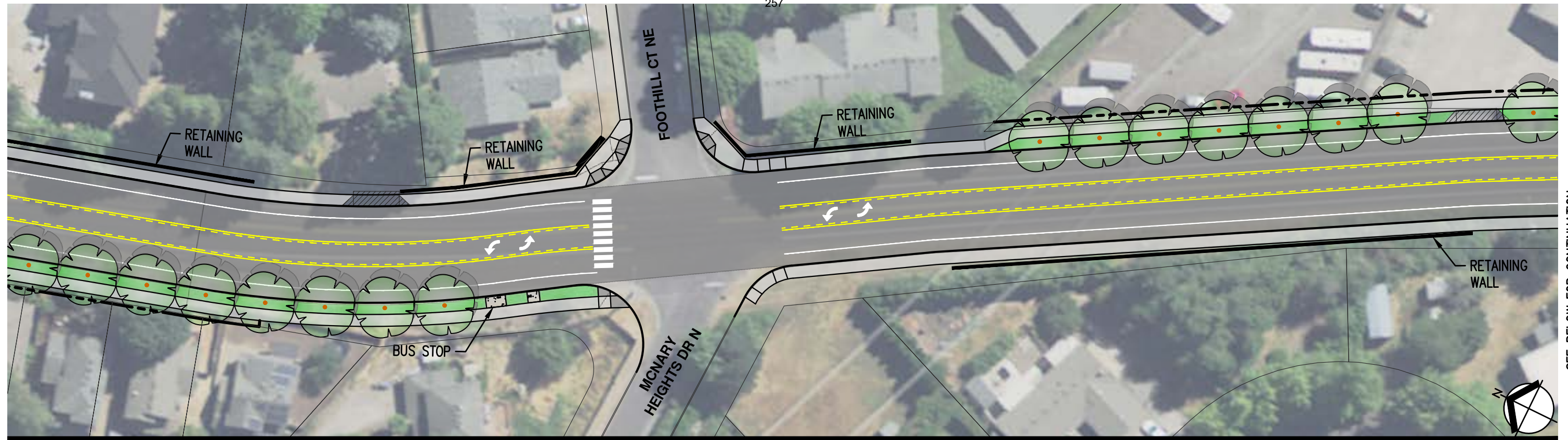


DATE: 11/30/2021

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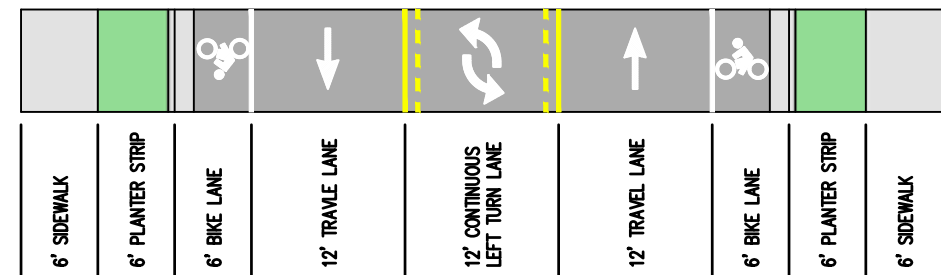
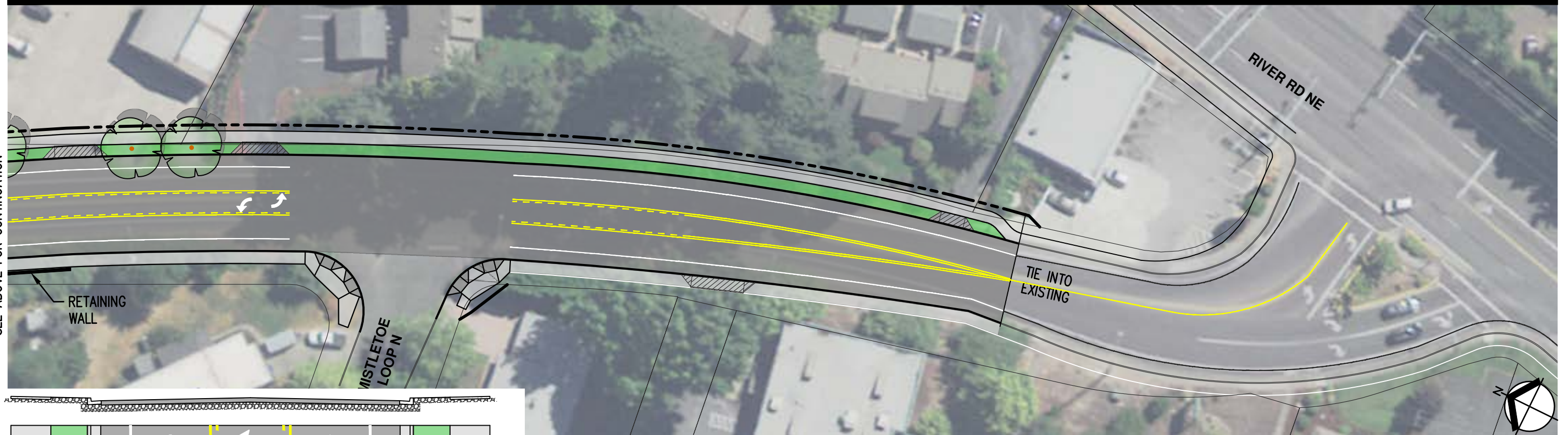
WHEATLAND ROAD MULTIMODAL CORRIDOR
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LEGEND

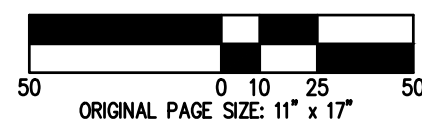
EXISTING TREE TO REMAIN



PROPOSED STREET TREE



SCALE: 1" = 50 FEET



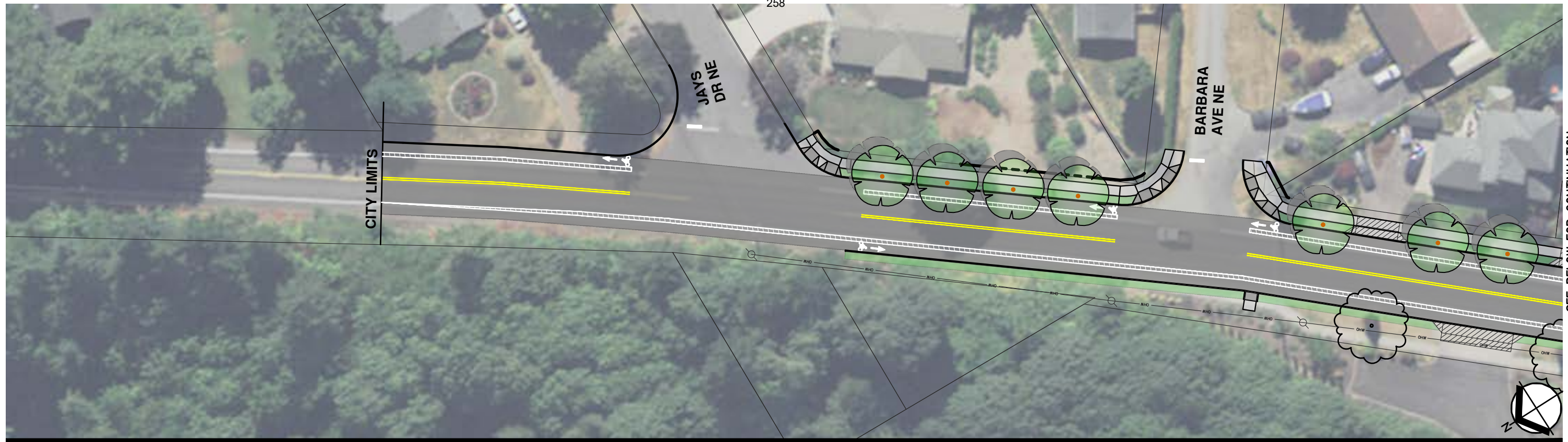
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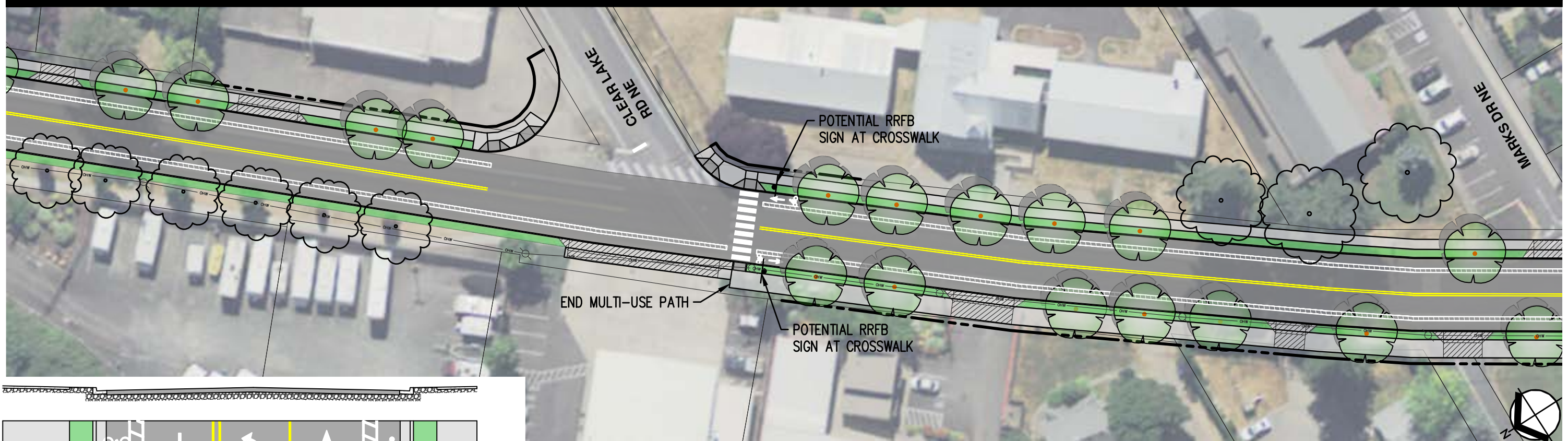
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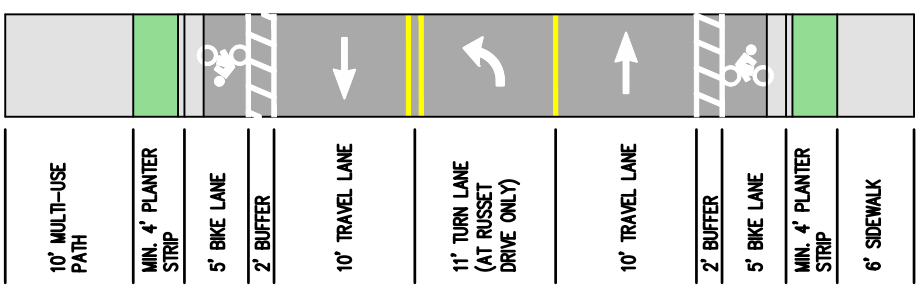


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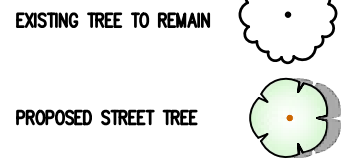
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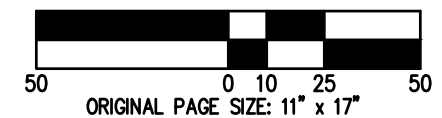
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ALT #3 ROW NEEDED= ±25,389 SF

SCALE: 1"= 50 FEET



DATE: 11/30/2021

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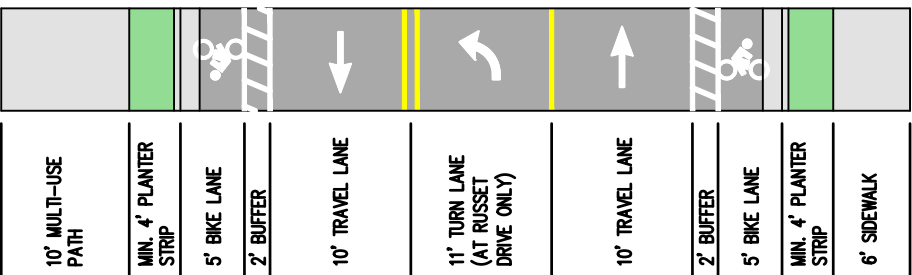
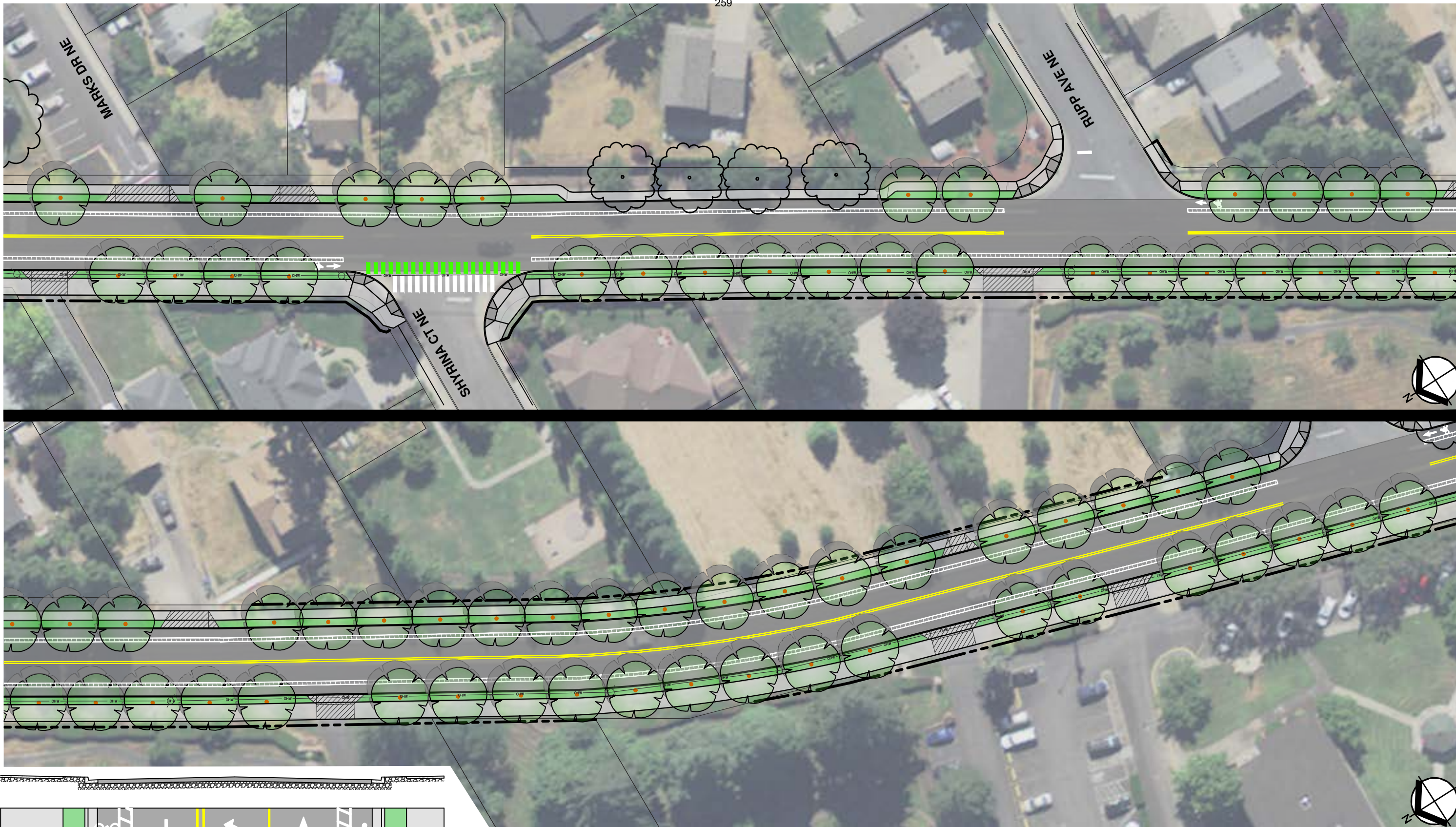
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LEGEND

EXISTING TREE TO REMAIN



PROPOSED STREET TREE



ALT #3 ROW NEEDED= ±25,389 SF

SCALE: 1"=50 FEET



ORIGINAL PAGE SIZE: 11" x 17"



DATE: 11/30/2021

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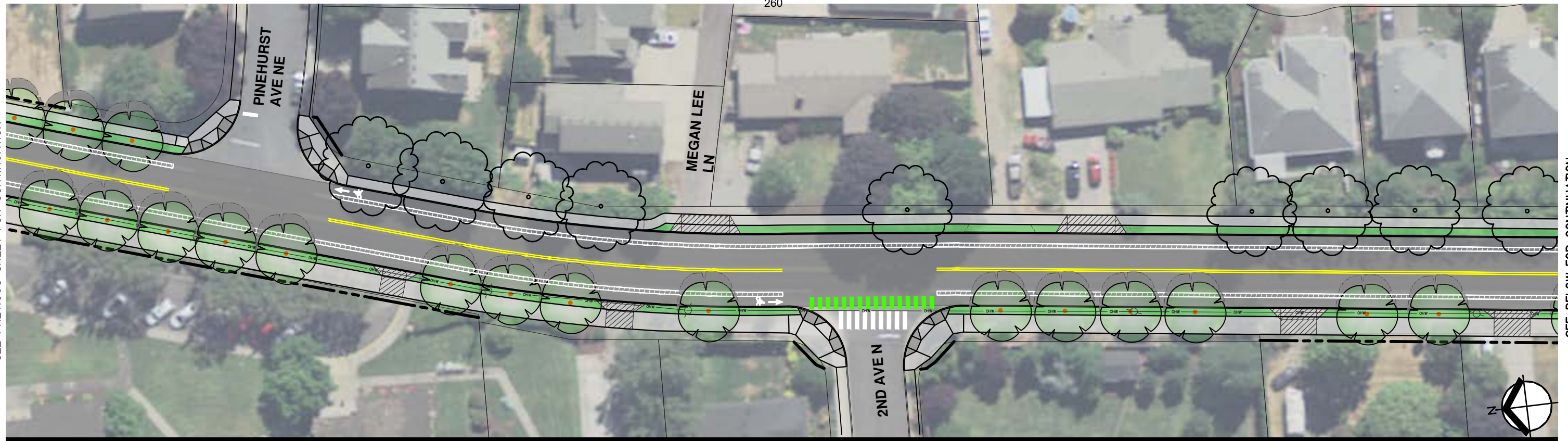
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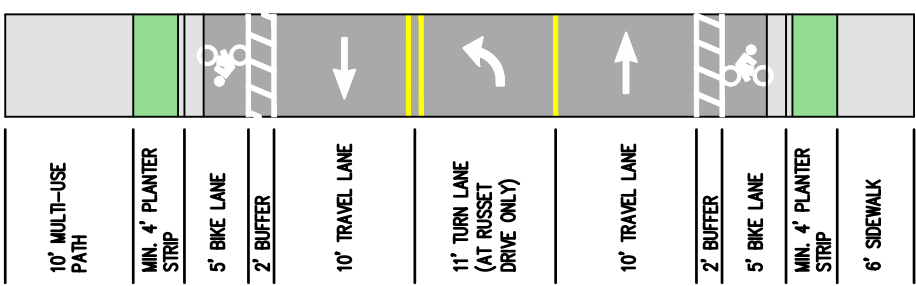
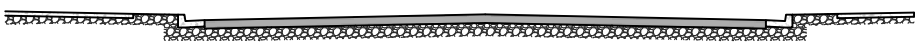
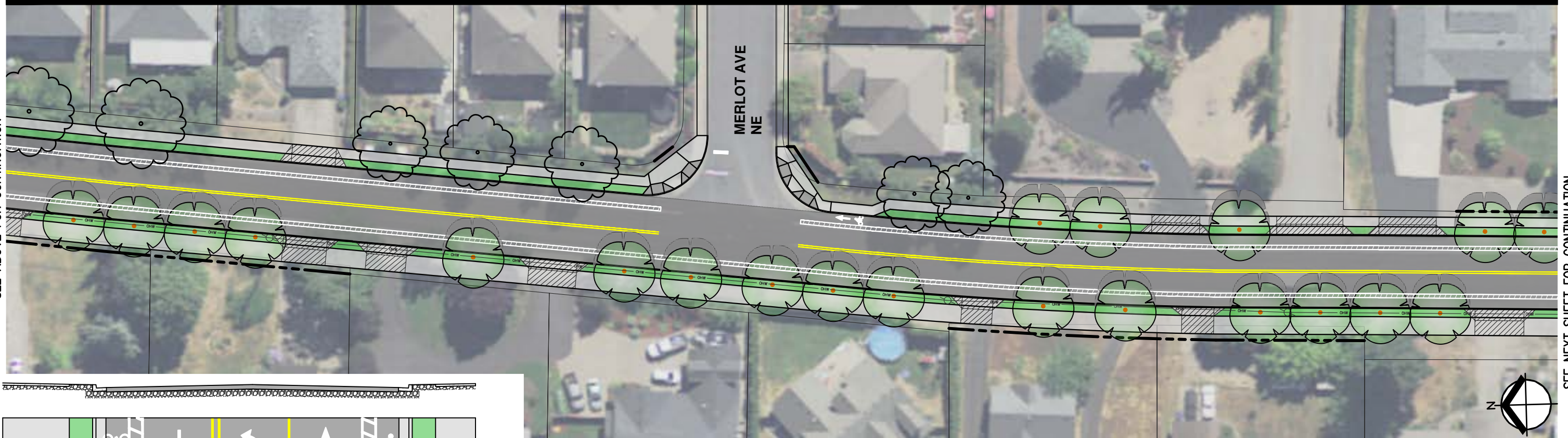
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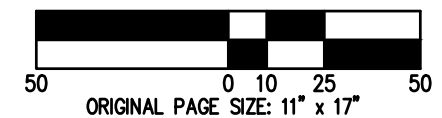
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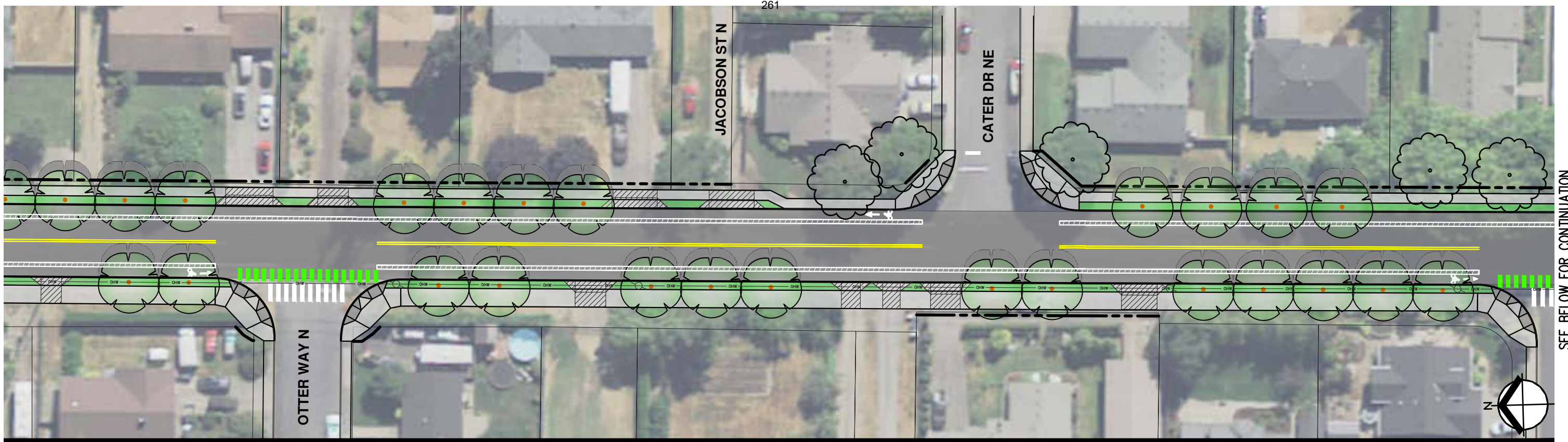
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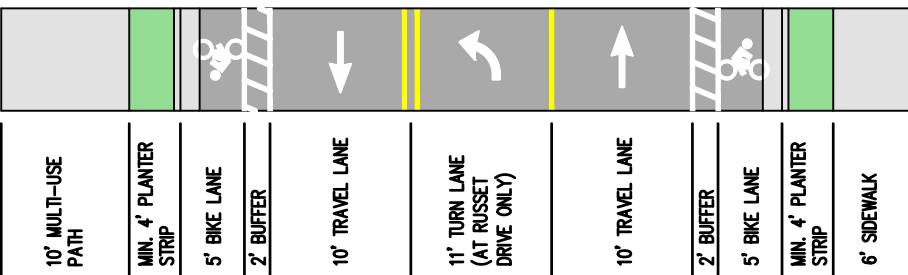
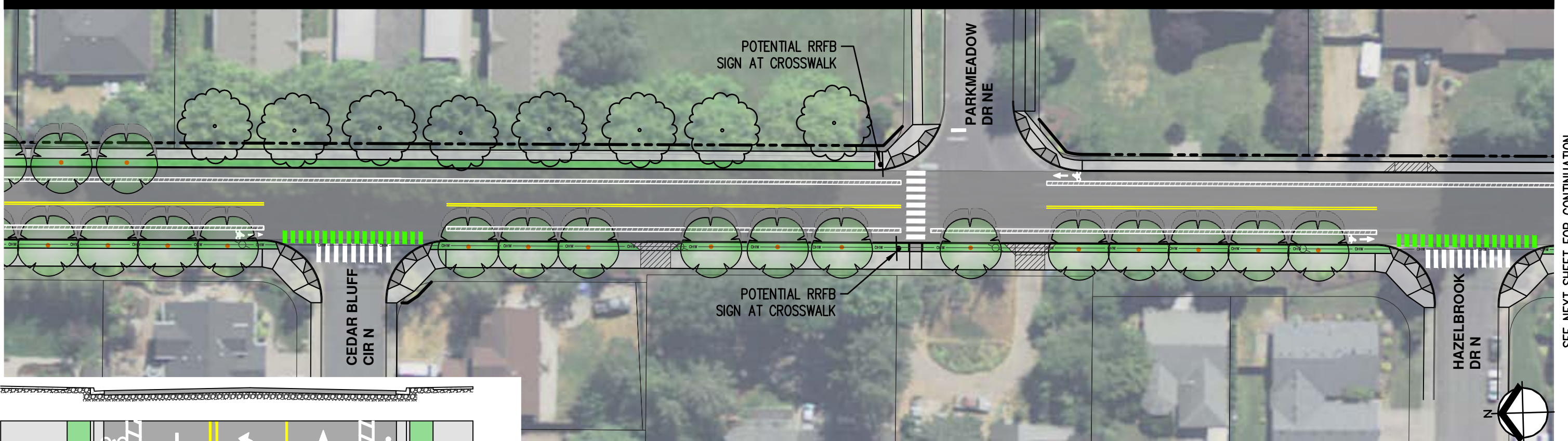
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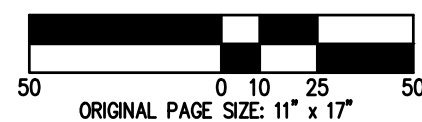
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LEGEND

- EXISTING TREE TO REMAIN
- PROPOSED STREET TREE

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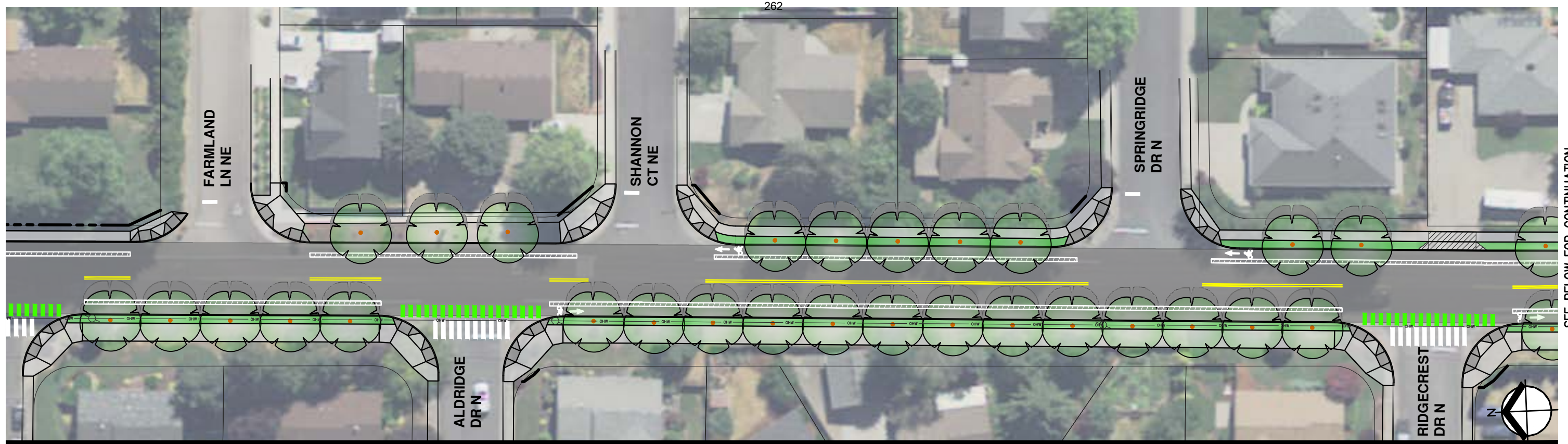
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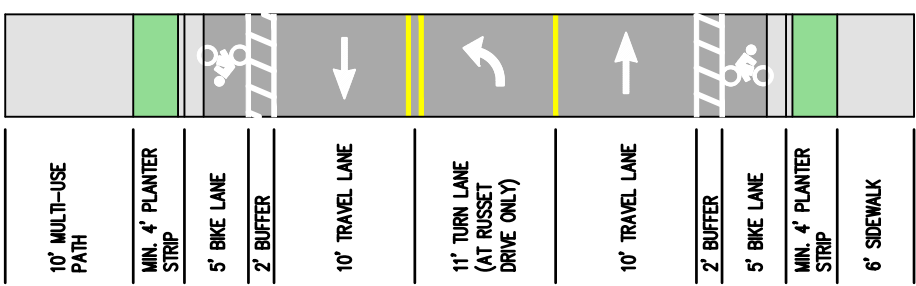
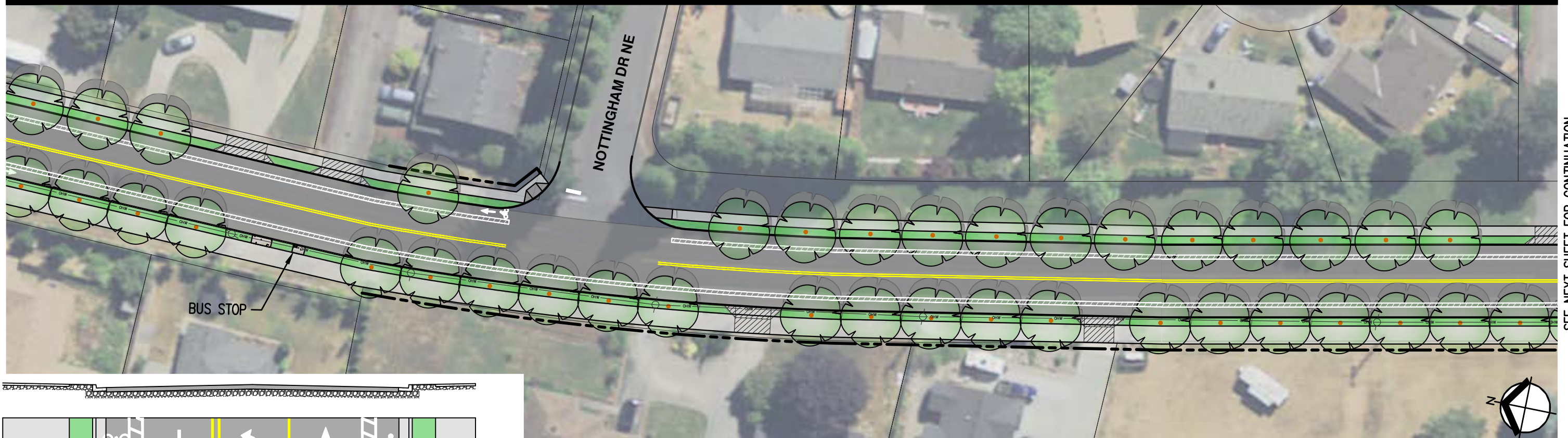
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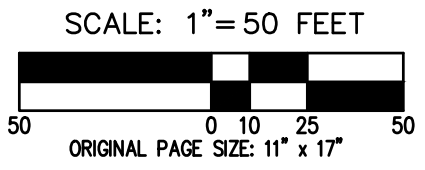


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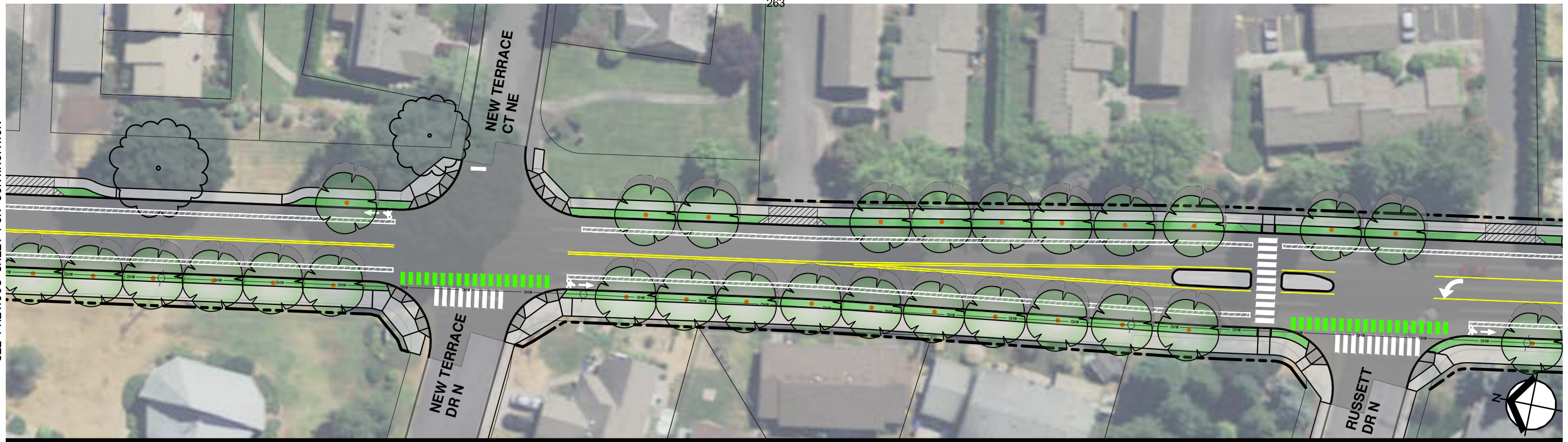
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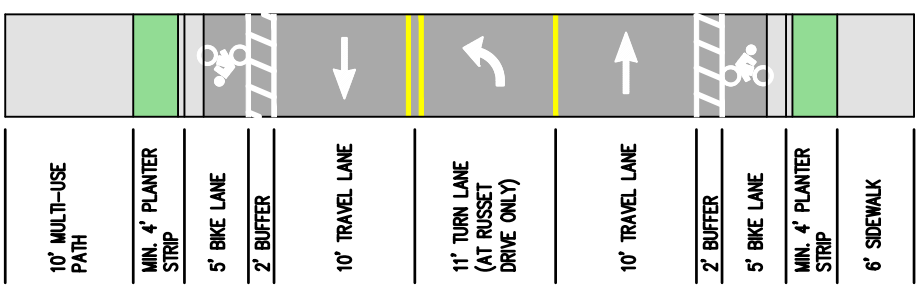
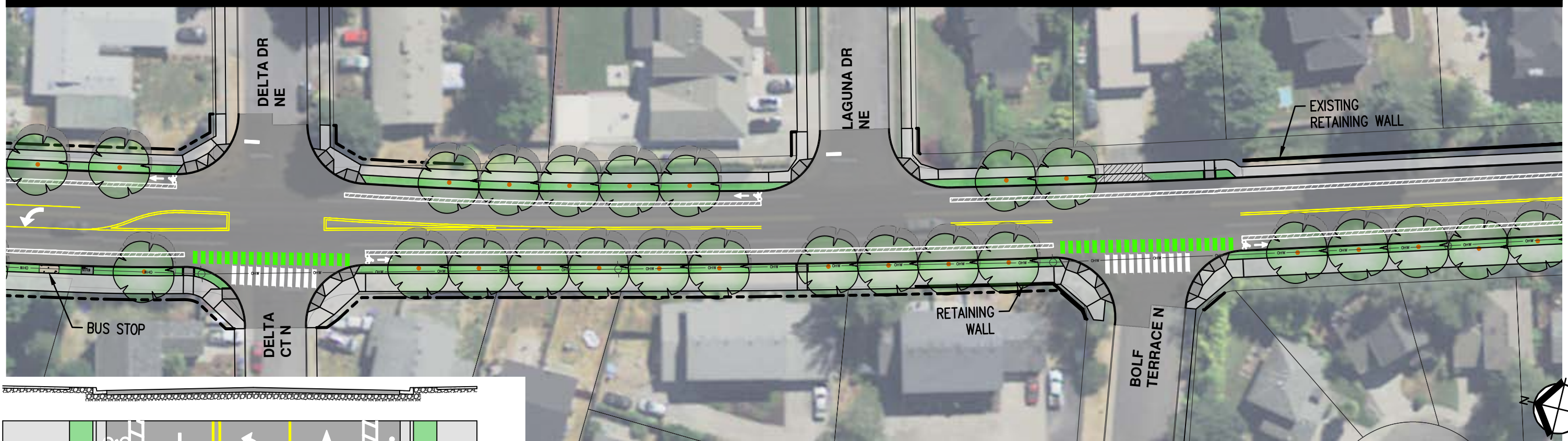
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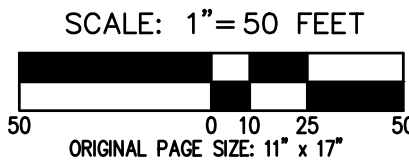


CONCEPT DRAWING - NOT TO SCALE

LEGEND

- EXISTING TREE TO REMAIN
- PROPOSED STREET TREE

ALT #3 ROW NEEDED= ±25,389 SF



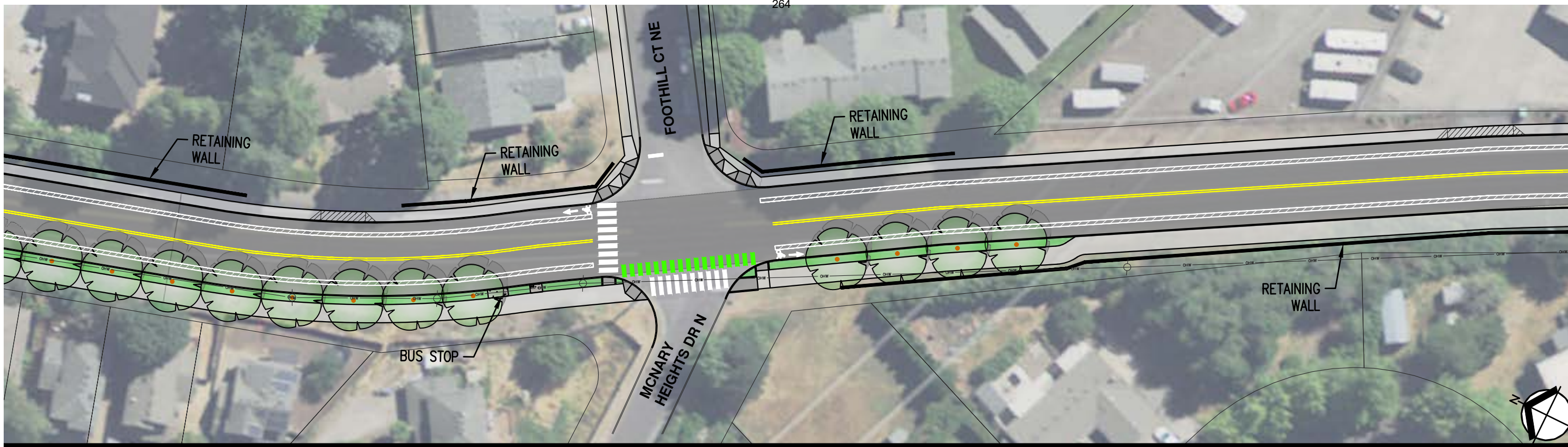
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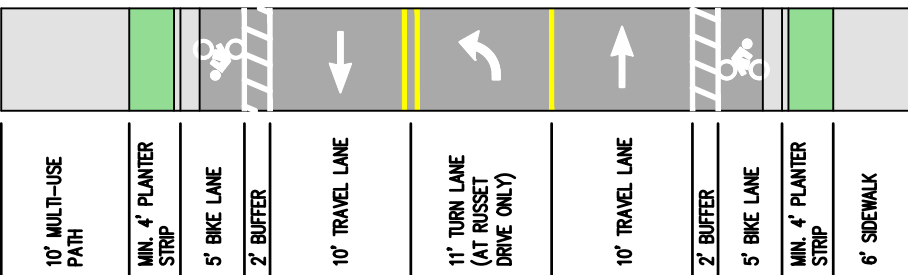
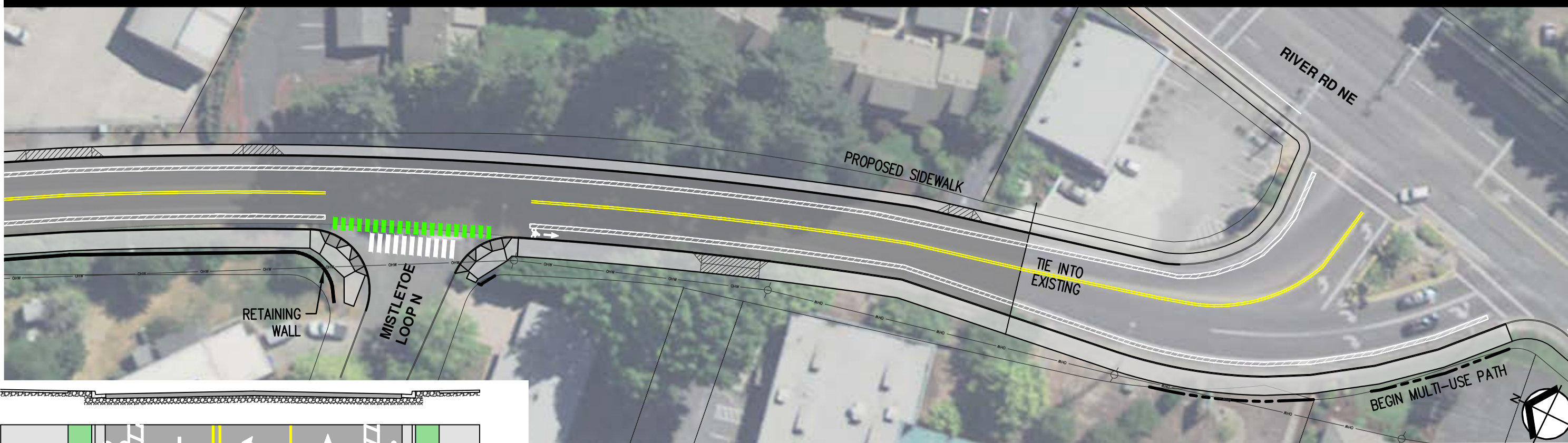
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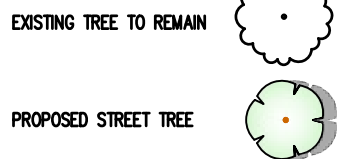


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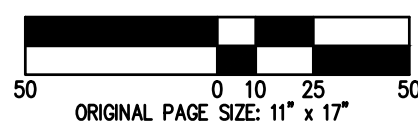
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LEGEND



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



















APPENDIX C: SYNCHRO HCM REPORTS

HCM 6th Signalized Intersection Summary

1: River Rd & Wheatland Rd/Springwood Dr

Wheatland Road Multimodal Corridor Plan

Future 2042 - AM Peak - Build TSP

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	5	425	10	5	10	215	380	5	5	585	10
Future Volume (veh/h)	10	5	425	10	5	10	215	380	5	5	585	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1841	1900	1900	1900	1841	1856	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	5	1	11	5	0	234	413	4	5	636	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	4	0	0	0	4	3	0	0	0	0
Cap, veh/h	52	24	230	54	25	0	634	2626	25	717	2449	38
Arrive On Green	0.02	0.04	0.02	0.02	0.04	0.00	0.06	0.73	0.70	0.00	0.67	0.64
Sat Flow, veh/h	1263	574	2721	1263	574	0	1753	3577	35	1810	3636	57
Grp Volume(v), veh/h	16	0	1	16	0	0	234	203	214	5	316	330
Grp Sat Flow(s),veh/h/ln	1837	0	1360	1837	0	0	1753	1763	1849	1810	1805	1888
Q Serve(g_s), s	0.8	0.0	0.0	0.8	0.0	0.0	3.8	3.1	3.1	0.1	6.2	6.2
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.8	0.0	0.0	3.8	3.1	3.1	0.1	6.2	6.2
Prop In Lane	0.69		1.00	0.69		0.00	1.00		0.02	1.00		0.03
Lane Grp Cap(c), veh/h	76	0	230	78	0	0	634	1294	1358	717	1216	1272
V/C Ratio(X)	0.21	0.00	0.00	0.20	0.00	0.00	0.37	0.16	0.16	0.01	0.26	0.26
Avail Cap(c_a), veh/h	143	0	328	408	0	0	826	1294	1358	823	1216	1272
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	37.8	42.3	0.0	0.0	4.4	3.6	3.6	5.7	5.8	5.8
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.5	0.0	0.0	0.1	0.3	0.2	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.4	0.0	0.0	1.0	0.9	0.9	0.0	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.0	37.8	42.7	0.0	0.0	4.5	3.9	3.9	5.7	6.3	6.3
LnGrp LOS	D	A	D	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		17			16			651			651	
Approach Delay, s/veh		42.6			42.7			4.1			6.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.4	70.1		7.8	9.8	64.6		7.7				
Change Period (Y+Rc), s	4.0	7.0		6.0	4.0	7.0		6.0				
Max Green Setting (Gmax), s	5.6	38.4		18.0	15.7	28.3		5.0				
Max Q Clear Time (g_c+I1), s	2.1	5.1		2.8	5.8	8.2		2.8				
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			6.1									
HCM 6th LOS			A									
Notes												
User approved changes to right turn type.												

Synchro ID	Control Type	Intersection	Control Type	LOS	Delay	V/C Ratio
	1 Signal	River Rd & Wheatland Rd/Springwood Dr	Signal	A	6.1	0.40

HCM 6th TWSC
2: Wheatland Rd & Russett Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak - Build TSP

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	5	75	20	165	330	5
Future Vol, veh/h	5	75	20	165	330	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	7	3	4	0
Mvmt Flow	5	80	21	176	351	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	573	355	357	0	0	
Stage 1	355	-	-	-	-	
Stage 2	218	-	-	-	-	
Critical Hdwy	6.4	6.2	4.17	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.263	-	-	
Pot Cap-1 Maneuver	484	693	1174	-	-	
Stage 1	714	-	-	-	-	
Stage 2	823	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	474	692	1173	-	-	
Mov Cap-2 Maneuver	558	-	-	-	-	
Stage 1	700	-	-	-	-	
Stage 2	822	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s	11	0.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1173	-	682	-	-	
HCM Lane V/C Ratio	0.018	-	0.125	-	-	
HCM Control Delay (s)	8.1	-	11	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	

HCM 6th TWSC 3: Wheatland Rd & Aldridge Dr

Wheatland Road Multimodal Corridor Plan Future 2042 - AM Peak - Build TSP

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	5	20	5	160	260	5
Future Vol, veh/h	5	20	5	160	260	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	6	22	6	178	289	6

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	483	293	296	0	-	0
Stage 1	293	-	-	-	-	-
Stage 2	190	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	546	751	1277	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	542	750	1276	-	-	-
Mov Cap-2 Maneuver	610	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1276	-	717	-	-
HCM Lane V/C Ratio	0.004	-	0.039	-	-
HCM Control Delay (s)	7.8	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 6th TWSC
4: Wheatland Rd & Parkmeadow Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak - Build TSP

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑↑		↑		↑	↑
Traffic Vol, veh/h	35	5	155	10	5	230
Future Vol, veh/h	35	5	155	10	5	230
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	12	0	3	0	0	5
Mvmt Flow	38	5	167	11	5	247
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	433	176	0	0	181	0
Stage 1	176	-	-	-	-	-
Stage 2	257	-	-	-	-	-
Critical Hdwy	6.52	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	5.52	-	-	-	-	-
Follow-up Hdwy	3.608	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	561	872	-	-	1407	-
Stage 1	831	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	557	870	-	-	1403	-
Mov Cap-2 Maneuver	615	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.1	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	638	1403		
HCM Lane V/C Ratio	-	-	0.067	0.004		
HCM Control Delay (s)	-	-	11.1	7.6		
HCM Lane LOS	-	-	B	A		
HCM 95th %tile Q(veh)	-	-	0.2	0		

HCM 6th TWSC
5: Wheatland Rd & Clear Lake Rd

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak - Build TSP

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	45	0	10	0	110	35	10	50	0
Future Vol, veh/h	0	0	0	45	0	10	0	110	35	10	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	6	0	0	0	4	7	10	14	0
Mvmt Flow	0	0	0	50	0	11	0	122	39	11	56	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	225	239	56	220	220	142	56	0	0	161	0	0
Stage 1	78	78	-	142	142	-	-	-	-	-	-	-
Stage 2	147	161	-	78	78	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.5	6.2	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4	3.3	2.2	-	-	2.29	-	-
Pot Cap-1 Maneuver	735	666	1016	728	682	911	1562	-	-	1371	-	-
Stage 1	936	834	-	851	783	-	-	-	-	-	-	-
Stage 2	860	769	-	921	834	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	722	661	1016	724	677	911	1562	-	-	1371	-	-
Mov Cap-2 Maneuver	722	661	-	724	677	-	-	-	-	-	-	-
Stage 1	936	827	-	851	783	-	-	-	-	-	-	-
Stage 2	850	769	-	914	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.2	0	1.3
HCM LOS	A	B		





















Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1562	-	-	-	752	1371	-	-
HCM Lane V/C Ratio	-	-	-	-	0.081	0.008	-	-
HCM Control Delay (s)	0	-	-	0	10.2	7.6	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

HCM 6th Signalized Intersection Summary

1: River Rd & Wheatland Rd/Springwood Dr

Wheatland Road Multimodal Corridor Plan

Future 2042 - PM Peak - Build TSP

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	410	20	5	5	645	895	20	10	775	20
Future Volume (veh/h)	5	5	410	20	5	5	645	895	20	10	775	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1781	1900	1900	1900	1885	1781	1900	1885	1900
Adj Flow Rate, veh/h	5	5	193	22	5	0	701	973	21	11	842	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	8	0	0	0	1	8	0	1	0
Cap, veh/h	72	72	825	88	20	0	675	2425	52	329	1575	37
Arrive On Green	0.06	0.08	0.06	0.04	0.06	0.00	0.24	0.68	0.64	0.01	0.44	0.41
Sat Flow, veh/h	927	927	2575	1488	338	0	1810	3583	77	1810	3576	85
Grp Volume(v), veh/h	10	0	193	27	0	0	701	486	508	11	422	440
Grp Sat Flow(s),veh/h/ln	1854	0	1288	1826	0	0	1810	1791	1869	1810	1791	1870
Q Serve(g_s), s	0.5	0.0	5.0	1.3	0.0	0.0	22.0	10.8	10.9	0.3	15.5	15.5
Cycle Q Clear(g_c), s	0.5	0.0	5.0	1.3	0.0	0.0	22.0	10.8	10.9	0.3	15.5	15.5
Prop In Lane	0.50		1.00	0.81		0.00	1.00		0.04	1.00		0.05
Lane Grp Cap(c), veh/h	144	0	825	109	0	0	675	1212	1265	329	789	824
V/C Ratio(X)	0.07	0.00	0.23	0.25	0.00	0.00	1.04	0.40	0.40	0.03	0.53	0.53
Avail Cap(c_a), veh/h	144	0	825	406	0	0	675	1212	1265	425	789	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	23.8	41.2	0.0	0.0	17.7	6.4	6.5	15.5	18.4	18.5
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.4	0.0	0.0	44.9	1.0	0.9	0.0	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.5	0.6	0.0	0.0	15.9	3.5	3.6	0.1	6.7	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	0.0	23.9	41.6	0.0	0.0	62.6	7.4	7.4	15.5	21.0	21.0
LnGrp LOS	D	A	C	D	A	A	F	A	A	B	C	C
Approach Vol, veh/h		203			27			1695			873	
Approach Delay, s/veh		24.6			41.6			30.3			20.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	64.9		9.4	26.0	43.6		11.0				
Change Period (Y+Rc), s	4.0	7.0		6.0	4.0	7.0		6.0				
Max Green Setting (Gmax), s	5.5	38.5		18.0	22.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	2.3	12.9		3.3	24.0	17.5		7.0				
Green Ext Time (p_c), s	0.0	1.2		0.0	0.0	0.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			27.0									
HCM 6th LOS			C									
Notes												
User approved changes to right turn type.												

Synchro ID	Control Type	Intersection	Control Type	LOS	Delay	V/C Ratio
	1 Signal	River Rd & Wheatland Rd/Springwood Dr	Signal	C	27.0	0.44

HCM 6th TWSC
2: Wheatland Rd & Russett Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak - Build TSP

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	5	60	90	495	360	20
Future Vol, veh/h	5	60	90	495	360	20
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	4	0	0	2	0
Mvmt Flow	5	64	96	527	383	21

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1114	395	405	0	-	0
Stage 1	395	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	232	650	1165	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	213	649	1164	-	-	-
Mov Cap-2 Maneuver	345	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1164	-	608	-	-
HCM Lane V/C Ratio	0.082	-	0.114	-	-
HCM Control Delay (s)	8.4	-	11.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-

HCM 6th TWSC
3: Wheatland Rd & Aldridge Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak - Build TSP

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	25	390	325	5
Future Vol, veh/h	5	5	25	390	325	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	5	5	27	424	353	5

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	835	357	359	0	-	0
Stage 1	357	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	340	692	1211	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	332	691	1210	-	-	-
Mov Cap-2 Maneuver	452	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	627	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1210	-	547	-	-
HCM Lane V/C Ratio	0.022	-	0.02	-	-
HCM Control Delay (s)	8	-	11.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

HCM 6th TWSC

4: Wheatland Rd & Parkmeadow Dr

Wheatland Road Multimodal Corridor Plan

Future 2042 - PM Peak - Build TSP

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	10	340	55	25	285
Future Vol, veh/h	45	10	340	55	25	285
Conflicting Peds, #/hr	0	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	0	0	0	0	0
Mvmt Flow	50	11	378	61	28	317
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	785	414	0	0	442	0
Stage 1	412	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.46	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	356	643	-	-	1129	-
Stage 1	660	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	346	640	-	-	1126	-
Mov Cap-2 Maneuver	461	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	13.5	0	0.7			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	486	1126		
HCM Lane V/C Ratio	-	-	0.126	0.025		
HCM Control Delay (s)	-	-	13.5	8.3		
HCM Lane LOS	-	-	B	A		
HCM 95th %tile Q(veh)	-	-	0.4	0.1		

HCM 6th TWSC
5: Wheatland Rd & Clear Lake Rd

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak - Build TSP

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	60	0	20	0	80	55	20	175	0
Future Vol, veh/h	0	0	0	60	0	20	0	80	55	20	175	0
Conflicting Peds, #/hr	2	0	0	0	0	2	1	0	2	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	50	100	0	0	0	0	0	2	2	8	0	0
Mvmt Flow	0	0	0	67	0	22	0	89	61	22	194	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	372	391	195	360	361	124	195	0	0	152	0	0
Stage 1	239	239	-	122	122	-	-	-	-	-	-	-
Stage 2	133	152	-	238	239	-	-	-	-	-	-	-
Critical Hdwy	7.6	7.5	6.2	7.1	6.5	6.2	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	6.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.9	3.3	3.5	4	3.3	2.2	-	-	2.272	-	-
Pot Cap-1 Maneuver	506	420	851	599	569	932	1390	-	-	1393	-	-
Stage 1	669	559	-	887	799	-	-	-	-	-	-	-
Stage 2	768	618	-	770	711	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	487	412	850	591	558	928	1389	-	-	1390	-	-
Mov Cap-2 Maneuver	487	412	-	591	558	-	-	-	-	-	-	-
Stage 1	668	549	-	885	797	-	-	-	-	-	-	-
Stage 2	748	617	-	758	699	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11.4	0	0.8
HCM LOS	A	B		






















Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1389	-	-	-	650	1390	-	-
HCM Lane V/C Ratio	-	-	-	-	0.137	0.016	-	-
HCM Control Delay (s)	0	-	-	0	11.4	7.6	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0	-	-

HCM 6th Signalized Intersection Summary

1: River Rd & Wheatland Rd/Springwood Dr

Wheatland Road Multimodal Corridor Plan





Future 2042 - AM Peak - Build Multi

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	5	425	10	5	10	215	380	5	5	585	10
Future Volume (veh/h)	10	5	425	10	5	10	215	380	5	5	585	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1841	1900	1900	1900	1841	1856	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	5	1	11	5	0	234	413	4	5	636	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	4	0	0	0	4	3	0	0	0	0
Cap, veh/h	52	24	230	54	25	0	634	2626	25	717	2449	38
Arrive On Green	0.02	0.04	0.02	0.02	0.04	0.00	0.06	0.73	0.70	0.00	0.67	0.64
Sat Flow, veh/h	1263	574	2721	1263	574	0	1753	3577	35	1810	3636	57
Grp Volume(v), veh/h	16	0	1	16	0	0	234	203	214	5	316	330
Grp Sat Flow(s),veh/h/ln	1837	0	1360	1837	0	0	1753	1763	1849	1810	1805	1888
Q Serve(g_s), s	0.8	0.0	0.0	0.8	0.0	0.0	3.8	3.1	3.1	0.1	6.2	6.2
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.8	0.0	0.0	3.8	3.1	3.1	0.1	6.2	6.2
Prop In Lane	0.69		1.00	0.69		0.00	1.00		0.02	1.00		0.03
Lane Grp Cap(c), veh/h	76	0	230	78	0	0	634	1294	1358	717	1216	1272
V/C Ratio(X)	0.21	0.00	0.00	0.20	0.00	0.00	0.37	0.16	0.16	0.01	0.26	0.26
Avail Cap(c_a), veh/h	143	0	328	408	0	0	826	1294	1358	823	1216	1272
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	37.8	42.3	0.0	0.0	4.4	3.6	3.6	5.7	5.8	5.8
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.5	0.0	0.0	0.1	0.3	0.2	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.4	0.0	0.0	1.0	0.9	0.9	0.0	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.0	37.8	42.7	0.0	0.0	4.5	3.9	3.9	5.7	6.3	6.3
LnGrp LOS	D	A	D	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		17			16			651			651	
Approach Delay, s/veh		42.6			42.7			4.1			6.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.4	70.1		7.8	9.8	64.6		7.7				
Change Period (Y+Rc), s	4.0	7.0		6.0	4.0	7.0		6.0				
Max Green Setting (Gmax), s	5.6	38.4		18.0	15.7	28.3		5.0				
Max Q Clear Time (g_c+I1), s	2.1	5.1		2.8	5.8	8.2		2.8				
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			6.1									
HCM 6th LOS			A									
Notes												
User approved changes to right turn type.												

Synchro ID	Control Type	Intersection	Control Type	LOS	Delay	V/C Ratio
	1 Signal	River Rd & Wheatland Rd/Springwood Dr	Signal	A	6.1	0.40

HCM 6th TWSC
2: Wheatland Rd & Russett Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak - Build Multi

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	75	20	165	330	5
Future Vol, veh/h	5	75	20	165	330	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	7	3	4	0
Mvmt Flow	5	80	21	176	351	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	573	355	357	0	0	
Stage 1	355	-	-	-	-	
Stage 2	218	-	-	-	-	
Critical Hdwy	6.4	6.2	4.17	-	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	
Follow-up Hdwy	3.5	3.3	2.263	-	-	
Pot Cap-1 Maneuver	484	693	1174	-	-	
Stage 1	714	-	-	-	-	
Stage 2	823	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	474	692	1173	-	-	
Mov Cap-2 Maneuver	474	-	-	-	-	
Stage 1	700	-	-	-	-	
Stage 2	822	-	-	-	-	
Approach	EB	NB		SB		
HCM Control Delay, s	11.1	0.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1173	-	673	-	-	
HCM Lane V/C Ratio	0.018	-	0.126	-	-	
HCM Control Delay (s)	8.1	-	11.1	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	

HCM 6th TWSC

3: Wheatland Rd & Aldridge Dr

Wheatland Road Multimodal Corridor Plan

Future 2042 - AM Peak - Build Multi

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	20	5	160	260	5
Future Vol, veh/h	5	20	5	160	260	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	5	5	0
Mvmt Flow	6	22	6	178	289	6




Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	483	293	296	0	0
Stage 1	293	-	-	-	-
Stage 2	190	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	546	751	1277	-	-
Stage 1	762	-	-	-	-
Stage 2	847	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	542	750	1276	-	-
Mov Cap-2 Maneuver	542	-	-	-	-
Stage 1	757	-	-	-	-
Stage 2	846	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1276	-	697	-	-
HCM Lane V/C Ratio	0.004	-	0.04	-	-
HCM Control Delay (s)	7.8	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 6th TWSC
4: Wheatland Rd & Parkmeadow Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak - Build Multi

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	5	155	10	5	230
Future Vol, veh/h	35	5	155	10	5	230
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	12	0	3	0	0	5
Mvmt Flow	38	5	167	11	5	247

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	433	176	0	0	181
Stage 1	176	-	-	-	-
Stage 2	257	-	-	-	-
Critical Hdwy	6.52	6.2	-	-	4.1
Critical Hdwy Stg 1	5.52	-	-	-	-
Critical Hdwy Stg 2	5.52	-	-	-	-
Follow-up Hdwy	3.608	3.3	-	-	2.2
Pot Cap-1 Maneuver	561	872	-	-	1407
Stage 1	831	-	-	-	-
Stage 2	763	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	557	870	-	-	1403
Mov Cap-2 Maneuver	557	-	-	-	-
Stage 1	829	-	-	-	-
Stage 2	760	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	583	1403
HCM Lane V/C Ratio	-	-	0.074	0.004
HCM Control Delay (s)	-	-	11.7	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
5: Wheatland Rd & Clear Lake Rd

Wheatland Road Multimodal Corridor Plan
Future 2042 - AM Peak - Build Multi

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	45	0	10	0	110	35	10	50	0
Future Vol, veh/h	0	0	0	45	0	10	0	110	35	10	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	6	0	0	0	4	7	10	14	0
Mvmt Flow	0	0	0	50	0	11	0	122	39	11	56	0






















Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	225	239	56	220	220	142	56	0	0	161	0	0
Stage 1	78	78	-	142	142	-	-	-	-	-	-	-
Stage 2	147	161	-	78	78	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.5	6.2	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4	3.3	2.2	-	-	2.29	-	-
Pot Cap-1 Maneuver	735	666	1016	728	682	911	1562	-	-	1371	-	-
Stage 1	936	834	-	851	783	-	-	-	-	-	-	-
Stage 2	860	769	-	921	834	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	722	661	1016	724	677	911	1562	-	-	1371	-	-
Mov Cap-2 Maneuver	722	661	-	724	677	-	-	-	-	-	-	-
Stage 1	936	827	-	851	783	-	-	-	-	-	-	-
Stage 2	850	769	-	914	827	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		10.2		0		1.3	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1562	-	-	-	752	1371	-	-
HCM Lane V/C Ratio	-	-	-	-	0.081	0.008	-	-
HCM Control Delay (s)	0	-	-	0	10.2	7.6	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

HCM 6th Signalized Intersection Summary
1: River Rd & Wheatland Rd/Springwood Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak - Build Multi

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	410	20	5	5	645	895	20	10	775	20
Future Volume (veh/h)	5	5	410	20	5	5	645	895	20	10	775	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1781	1900	1900	1900	1885	1781	1900	1885	1900
Adj Flow Rate, veh/h	5	5	193	22	5	0	701	973	21	11	842	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	8	0	0	0	1	8	0	1	0
Cap, veh/h	72	72	825	88	20	0	675	2425	52	329	1575	37
Arrive On Green	0.06	0.08	0.06	0.04	0.06	0.00	0.24	0.68	0.64	0.01	0.44	0.41
Sat Flow, veh/h	927	927	2575	1488	338	0	1810	3583	77	1810	3576	85
Grp Volume(v), veh/h	10	0	193	27	0	0	701	486	508	11	422	440
Grp Sat Flow(s),veh/h/ln	1854	0	1288	1826	0	0	1810	1791	1869	1810	1791	1870
Q Serve(g_s), s	0.5	0.0	5.0	1.3	0.0	0.0	22.0	10.8	10.9	0.3	15.5	15.5
Cycle Q Clear(g_c), s	0.5	0.0	5.0	1.3	0.0	0.0	22.0	10.8	10.9	0.3	15.5	15.5
Prop In Lane	0.50		1.00	0.81		0.00	1.00		0.04	1.00		0.05
Lane Grp Cap(c), veh/h	144	0	825	109	0	0	675	1212	1265	329	789	824
V/C Ratio(X)	0.07	0.00	0.23	0.25	0.00	0.00	1.04	0.40	0.40	0.03	0.53	0.53
Avail Cap(c_a), veh/h	144	0	825	406	0	0	675	1212	1265	425	789	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	23.8	41.2	0.0	0.0	17.7	6.4	6.5	15.5	18.4	18.5
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.4	0.0	0.0	44.9	1.0	0.9	0.0	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.5	0.6	0.0	0.0	15.9	3.5	3.6	0.1	6.7	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	0.0	23.9	41.6	0.0	0.0	62.6	7.4	7.4	15.5	21.0	21.0
LnGrp LOS	D	A	C	D	A	A	F	A	A	B	C	C
Approach Vol, veh/h		203			27			1695			873	
Approach Delay, s/veh		24.6			41.6			30.3			20.9	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	64.9		9.4	26.0	43.6		11.0				
Change Period (Y+Rc), s	4.0	7.0		6.0	4.0	7.0		6.0				
Max Green Setting (Gmax), s	5.5	38.5		18.0	22.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	2.3	12.9		3.3	24.0	17.5		7.0				
Green Ext Time (p_c), s	0.0	1.2		0.0	0.0	0.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			27.0									
HCM 6th LOS			C									
Notes												
User approved changes to right turn type.												

Synchro ID	Control Type	Intersection	Control Type	LOS	Delay	V/C Ratio
	1 Signal	River Rd & Wheatland Rd/Springwood Dr	Signal	C	27.0	0.44

HCM 6th TWSC
2: Wheatland Rd & Russett Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak - Build Multi

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	5	60	90	495	360	20
Future Vol, veh/h	5	60	90	495	360	20
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	4	0	0	2	0
Mvmt Flow	5	64	96	527	383	21

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1114	395	405	0	-	0
Stage 1	395	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	232	650	1165	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	213	649	1164	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1164	-	561	-	-
HCM Lane V/C Ratio	0.082	-	0.123	-	-
HCM Control Delay (s)	8.4	-	12.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-

HCM 6th TWSC
3: Wheatland Rd & Aldridge Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak - Build Multi

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	5	25	390	325	5
Future Vol, veh/h	5	5	25	390	325	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	5	5	27	424	353	5




Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	835	357	359	0	-	0
Stage 1	357	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	340	692	1211	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	329	691	1210	-	-	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	627	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1210	-	446	-	-
HCM Lane V/C Ratio	0.022	-	0.024	-	-
HCM Control Delay (s)	8	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

HCM 6th TWSC
4: Wheatland Rd & Parkmeadow Dr

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak - Build Multi

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	10	340	55	25	285
Future Vol, veh/h	45	10	340	55	25	285
Conflicting Peds, #/hr	0	2	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	0	0	0	0	0
Mvmt Flow	50	11	378	61	28	317

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	785	414	0	0	442	0
Stage 1	412	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.46	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	356	643	-	-	1129	-
Stage 1	660	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	344	640	-	-	1126	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	376	1126
HCM Lane V/C Ratio	-	-	0.163	0.025
HCM Control Delay (s)	-	-	16.4	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1

HCM 6th TWSC
5: Wheatland Rd & Clear Lake Rd

Wheatland Road Multimodal Corridor Plan
Future 2042 - PM Peak - Build Multi

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	60	0	20	0	80	55	20	175	0
Future Vol, veh/h	0	0	0	60	0	20	0	80	55	20	175	0
Conflicting Peds, #/hr	2	0	0	0	0	2	1	0	2	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	50	100	0	0	0	0	0	2	2	8	0	0
Mvmt Flow	0	0	0	67	0	22	0	89	61	22	194	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	372	391	195	360	361	124	195	0	0	152	0	0
Stage 1	239	239	-	122	122	-	-	-	-	-	-	-
Stage 2	133	152	-	238	239	-	-	-	-	-	-	-
Critical Hdwy	7.6	7.5	6.2	7.1	6.5	6.2	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	6.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	6.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.9	3.3	3.5	4	3.3	2.2	-	-	2.272	-	-
Pot Cap-1 Maneuver	506	420	851	599	569	932	1390	-	-	1393	-	-
Stage 1	669	559	-	887	799	-	-	-	-	-	-	-
Stage 2	768	618	-	770	711	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	486	411	850	589	557	929	1389	-	-	1390	-	-
Mov Cap-2 Maneuver	486	411	-	589	557	-	-	-	-	-	-	-
Stage 1	668	548	-	885	797	-	-	-	-	-	-	-
Stage 2	748	617	-	756	697	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		11.4			0			0.8			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1389	-	-	-	648	1390	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.137	0.016	-	-				
HCM Control Delay (s)	0	-	-	0	11.4	7.6	0	-				
HCM Lane LOS	A	-	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0	-	-				

APPENDIX D: SIMTRAFFIC QUEUING REPORTS

Queuing and Blocking Report

Wheatland Road Multimodal Corridor Plan

Future 2042 - AM Peak - No Build - Queues

Intersection: 1: River Rd & Wheatland Rd/Springwood Dr

Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	371	184	155	74	179	92	54	38	327	33
Average Queue (ft)	59	125	59	22	66	19	8	2	131	3
95th Queue (ft)	221	204	169	56	128	61	32	21	265	23
Link Distance (ft)	501			388		853	853		735	
Upstream Blk Time (%)	0									
Queuing Penalty (veh)	0									
Storage Bay Dist (ft)		125	125		210			90		30
Storage Blk Time (%)		12	0		0				19	0
Queuing Penalty (veh)		2	0		0				60	0

Intersection: 2: Wheatland Rd & Russett Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	66	49
Average Queue (ft)	31	6
95th Queue (ft)	55	31
Link Distance (ft)	483	361
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Wheatland Rd & Aldridge Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	46	32
Average Queue (ft)	19	2
95th Queue (ft)	48	14
Link Distance (ft)	471	441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wheatland Rd & Parkmeadow Dr

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	64	13
Average Queue (ft)	30	1
95th Queue (ft)	61	9
Link Distance (ft)	660	677
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Wheatland Rd & Clear Lake Rd

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	54	15
Average Queue (ft)	24	1
95th Queue (ft)	45	8
Link Distance (ft)	476	540
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 62

Queuing and Blocking Report

Wheatland Road Multimodal Corridor Plan

Future 2042 - PM Peak - No Build - Queues

Intersection: 1: River Rd & Wheatland Rd/Springwood Dr

Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	348	185	155	100	270	881	872	121	791	51
Average Queue (ft)	78	141	66	29	269	839	737	11	708	4
95th Queue (ft)	265	215	178	71	271	1022	1091	57	935	29
Link Distance (ft)	501			388		853	853		735	
Upstream Blk Time (%)	0					58	4		54	
Queuing Penalty (veh)	0					0	0		0	
Storage Bay Dist (ft)		125	125		210			90		30
Storage Blk Time (%)		16	1		66	0		0	54	0
Queuing Penalty (veh)		2	0		295	0		0	224	0

Intersection: 2: Wheatland Rd & Russett Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	75	141
Average Queue (ft)	29	37
95th Queue (ft)	58	98
Link Distance (ft)	483	361
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Wheatland Rd & Aldridge Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	38	49
Average Queue (ft)	12	8
95th Queue (ft)	39	34
Link Distance (ft)	471	441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wheatland Rd & Parkmeadow Dr

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	78	17	63
Average Queue (ft)	34	1	9
95th Queue (ft)	67	9	37
Link Distance (ft)	660	425	677
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Wheatland Rd & Clear Lake Rd

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	62	25
Average Queue (ft)	27	2
95th Queue (ft)	46	14
Link Distance (ft)	476	540
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 520

Queuing and Blocking Report

Wheatland Road Multimodal Corridor Plan

Future 2042 - AM Peak - Build TSP - Queues

Intersection: 1: River Rd & Wheatland Rd/Springwood Dr

Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	277	185	155	80	176	82	49	41	339	44
Average Queue (ft)	49	120	49	24	64	15	9	3	125	3
95th Queue (ft)	186	194	153	58	127	52	34	22	257	21
Link Distance (ft)	501			388		853	853		735	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		125	125		210			90		30
Storage Blk Time (%)		10	0		0				18	0
Queuing Penalty (veh)		2	0		0				56	0

Intersection: 2: Wheatland Rd & Russett Dr

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	61	50
Average Queue (ft)	33	8
95th Queue (ft)	52	32
Link Distance (ft)	478	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 3: Wheatland Rd & Aldridge Dr

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	54	27
Average Queue (ft)	20	2
95th Queue (ft)	51	14
Link Distance (ft)	465	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 4: Wheatland Rd & Parkmeadow Dr

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	76	18
Average Queue (ft)	30	1
95th Queue (ft)	64	9
Link Distance (ft)	654	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 5: Wheatland Rd & Clear Lake Rd

Movement	WB	SB
Directions Served	LTR	L
Maximum Queue (ft)	63	20
Average Queue (ft)	26	1
95th Queue (ft)	50	8
Link Distance (ft)	468	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 58

Intersection: 1: River Rd & Wheatland Rd/Springwood Dr

Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	313	185	155	94	270	874	875	110	790	68
Average Queue (ft)	69	142	73	28	268	710	573	13	756	9
95th Queue (ft)	240	219	190	69	281	1079	1044	65	771	46
Link Distance (ft)	501			388		853	853		735	
Upstream Blk Time (%)						29	2		62	
Queuing Penalty (veh)						0	0		0	
Storage Bay Dist (ft)		125	125		210			90		30
Storage Blk Time (%)		16	1		59	0			55	0
Queuing Penalty (veh)		2	0		262	0			228	0

Intersection: 2: Wheatland Rd & Russett Dr

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	67	62
Average Queue (ft)	30	24
95th Queue (ft)	56	53
Link Distance (ft)	478	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 3: Wheatland Rd & Aldridge Dr

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	35	37
Average Queue (ft)	10	7
95th Queue (ft)	35	28
Link Distance (ft)	465	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Queuing and Blocking Report

Wheatland Road Multimodal Corridor Plan

Future 2042 - PM Peak - Build TSP - Queues

Intersection: 4: Wheatland Rd & Parkmeadow Dr

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	72	12	37	5
Average Queue (ft)	33	0	10	0
95th Queue (ft)	60	8	35	4
Link Distance (ft)	654	425		678
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

Intersection: 5: Wheatland Rd & Clear Lake Rd

Movement	WB	SB
Directions Served	LTR	L
Maximum Queue (ft)	55	34
Average Queue (ft)	27	3
95th Queue (ft)	48	22
Link Distance (ft)	468	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Network Summary

Network wide Queuing Penalty: 493

Queuing and Blocking Report

Wheatland Road Multimodal Corridor Plan

Future 2042 - AM Peak - Build Multi - Queues

Intersection: 1: River Rd & Wheatland Rd/Springwood Dr

Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	292	185	155	70	138	91	82	42	323	62
Average Queue (ft)	45	120	51	21	63	21	12	3	126	6
95th Queue (ft)	175	196	154	54	117	66	47	23	260	37
Link Distance (ft)	501			388		854	854		735	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		125	125		210			90		30
Storage Blk Time (%)		11	0		0				18	0
Queuing Penalty (veh)		2	0		0				54	0

Intersection: 2: Wheatland Rd & Russett Dr

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	69	36
Average Queue (ft)	32	5
95th Queue (ft)	57	26
Link Distance (ft)	479	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Wheatland Rd & Aldridge Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	46	18
Average Queue (ft)	19	1
95th Queue (ft)	48	10
Link Distance (ft)	471	441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wheatland Rd & Parkmeadow Dr

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	69	22
Average Queue (ft)	29	1
95th Queue (ft)	60	12
Link Distance (ft)	661	677
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Wheatland Rd & Clear Lake Rd

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	69	15
Average Queue (ft)	24	1
95th Queue (ft)	50	7
Link Distance (ft)	476	540
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 56

Queuing and Blocking Report

Wheatland Road Multimodal Corridor Plan

Future 2042 - PM Peak - Build Multi - Queues

Intersection: 1: River Rd & Wheatland Rd/Springwood Dr

Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	316	185	155	82	270	879	874	123	780	48
Average Queue (ft)	66	138	65	28	269	817	720	16	735	3
95th Queue (ft)	237	209	178	66	283	1044	1060	72	893	25
Link Distance (ft)	501			388		854	854		735	
Upstream Blk Time (%)						49	5		58	
Queuing Penalty (veh)						0	0		0	
Storage Bay Dist (ft)		125	125		210			90		30
Storage Blk Time (%)	0	14	1		65	0			54	0
Queuing Penalty (veh)	0	1	0		291	0			226	0

Intersection: 2: Wheatland Rd & Russett Dr

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	65	56
Average Queue (ft)	32	22
95th Queue (ft)	56	52
Link Distance (ft)	479	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Wheatland Rd & Aldridge Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	41	54
Average Queue (ft)	12	7
95th Queue (ft)	39	33
Link Distance (ft)	471	441
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Wheatland Rd & Parkmeadow Dr

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	84	8	72
Average Queue (ft)	34	0	12
95th Queue (ft)	68	5	46
Link Distance (ft)	661	425	677
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Wheatland Rd & Clear Lake Rd

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	54	42
Average Queue (ft)	26	3
95th Queue (ft)	44	19
Link Distance (ft)	476	540
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 519

APPENDIX E: SIMTRAFFIC TRAVEL TIME REPORTS

Arterial Level of Service: NB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Russett Dr	2	0.6	30.1	0.3	39
Aldridge Dr	3	0.8	34.0	0.4	40
Parkmeadow Dr	4	0.4	8.3	0.1	40
Clear Lake Rd	5	3.0	73.6	0.8	40
Jays Dr	6	0.5	11.4	0.1	40
Total		5.4	157.3	1.7	40

Arterial Level of Service: SB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Clear Lake Rd	5	0.4	10.5	0.1	43
Parkmeadow Dr	4	1.9	68.4	0.8	43
Aldridge Dr	3	0.6	8.7	0.1	38
Russett Dr	2	2.0	35.6	0.4	38
Mistletoe Lp	1	1.9	30.6	0.3	39
Total		6.8	153.8	1.7	41

Arterial Level of Service: NB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Russett Dr	2	3.2	32.3	0.3	37
Aldridge Dr	3	2.8	36.7	0.4	37
Parkmeadow Dr	4	1.7	9.7	0.1	34
Clear Lake Rd	5	5.8	74.9	0.8	39
Jays Dr	6	0.9	12.1	0.1	37
Total		14.4	165.7	1.7	38

Arterial Level of Service: SB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Clear Lake Rd	5	0.7	11.9	0.1	38
Parkmeadow Dr	4	3.4	74.7	0.8	39
Aldridge Dr	3	0.8	8.8	0.1	38
Russett Dr	2	2.5	36.1	0.4	38
Mistletoe Lp	1	2.2	31.5	0.3	38
Total		9.6	163.0	1.7	39

Arterial Level of Service: NB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Russett Dr	2	0.5	29.8	0.3	40
Aldridge Dr	3	0.9	34.0	0.4	40
Parkmeadow Dr	4	0.4	8.3	0.1	40
Clear Lake Rd	5	3.8	74.3	0.8	40
Jays Dr	6	0.7	11.6	0.1	39
Total		6.2	158.0	1.7	40

Arterial Level of Service: SB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Clear Lake Rd	5	0.4	10.3	0.1	44
Parkmeadow Dr	4	2.1	68.3	0.8	43
Aldridge Dr	3	0.5	8.6	0.1	39
Russett Dr	2	1.9	35.4	0.4	39
Mistletoe Lp	1	1.8	31.1	0.3	38
Total		6.7	153.7	1.7	41

Arterial Level of Service: NB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Russett Dr	2	1.8	30.9	0.3	38
Aldridge Dr	3	2.3	36.1	0.4	38
Parkmeadow Dr	4	1.7	9.8	0.1	34
Clear Lake Rd	5	6.3	74.5	0.8	39
Jays Dr	6	1.0	12.1	0.1	37
Total		13.0	163.5	1.7	38

Arterial Level of Service: SB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Clear Lake Rd	5	0.5	11.6	0.1	39
Parkmeadow Dr	4	3.3	74.8	0.8	39
Aldridge Dr	3	0.6	8.7	0.1	38
Russett Dr	2	2.3	35.9	0.4	38
Mistletoe Lp	1	2.1	31.5	0.3	38
Total		8.8	162.4	1.7	39

Arterial Level of Service: NB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Russett Dr	2	0.5	30.2	0.3	39
Aldridge Dr	3	0.8	34.2	0.4	40
Parkmeadow Dr	4	0.3	8.2	0.1	41
Clear Lake Rd	5	2.8	74.5	0.8	40
Jays Dr	6	0.5	11.6	0.1	39
Total		4.9	158.6	1.7	40

Arterial Level of Service: SB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Clear Lake Rd	5	0.5	10.4	0.1	43
Parkmeadow Dr	4	1.7	67.2	0.8	44
Aldridge Dr	3	0.6	8.6	0.1	39
Russett Dr	2	2.0	35.4	0.4	39
Mistletoe Lp	1	1.8	30.3	0.3	39
Total		6.6	152.0	1.7	41

Arterial Level of Service: NB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Russett Dr	2	1.7	31.2	0.3	38
Aldridge Dr	3	2.5	36.5	0.4	38
Parkmeadow Dr	4	1.9	10.0	0.1	33
Clear Lake Rd	5	6.0	75.6	0.8	39
Jays Dr	6	0.9	12.0	0.1	37
Total		13.0	165.4	1.7	38

Arterial Level of Service: SB Wheatland Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Clear Lake Rd	5	0.7	11.8	0.1	38
Parkmeadow Dr	4	3.4	75.2	0.8	39
Aldridge Dr	3	0.7	8.7	0.1	38
Russett Dr	2	2.2	35.9	0.4	38
Mistletoe Lp	1	2.0	31.3	0.3	38
Total		9.0	162.9	1.7	39

APPENDIX F: PLANNING-LEVEL COST ESTIMATES SPREADSHEETS

CITY OF KEIZER
WHEATLAND ROAD MULTIMODAL CORRIDOR STUDY
ALTERNATIVE 1
December 10, 2021



PRELIMINARY ENGINEER'S ESTIMATE

ODOT SPEC	DESCRIPTION	UNIT PRICE	UNIT	QTY	AMOUNT
PART 00100, ODOT (GENERAL CONDITIONS) & 00200, ODOT (TEMPORARY FEATURES & APPURTENANCES)					
00210	Mobilization	\$ 750,000	L.S.	1	\$ 750,000
00220-00270	Temporary Traffic Control, Work Access/Containment, Temporary Access and Erosion	\$ 450,000	L.S.	1	\$ 450,000
00280	Erosion and Sediment Control	\$ 80,000	L.S.	1	\$ 80,000
PART 00300, ODOT (ROADWORK)					
00305	Construction Surveying	\$ 80,000	L.S.	1	\$ 80,000
00310	Removal of Structures and Obstructions (incl. sawcut)	\$ 300,000	L.S.	1	\$ 300,000
00320	Clearing and Grubbing	\$ 115,000	L.S.	1	\$ 115,000
00330	General excavation	\$ 20	C.Y.	18000	\$ 360,000
PART 00400, 01000, ODOT (DRAINAGE & SEWERS)					
00445	New 12" PVC Storm Pipe, 5-Foot Depth	\$ 92	L.F.	1200	\$ 110,400
00445	Extend CB Leads, 10" PVC Storm Pipe, 5-Foot Depth	\$ 75	L.F.	300	\$ 22,500
00470	Stormwater drainage, quantity, and quality retrofit improvements	\$ 2	S.F.	600000	\$ 1,200,000
00470	Catch Basins	\$ 2,700	EA.	40	\$ 108,000
00470	New Storm Drain Manholes (Shallow)	\$ 4,500	EA.	7	\$ 31,500
00490	Post pave MH adjustment	\$ 800	Ea.	100	\$ 80,000
PART 00500, ODOT (BRIDGES)					
00510	Structure Excavation (Retaining Walls)	\$ 40	CY	1900	\$ 76,000
00596B	Modular Retaining Walls (incl. backfill)	\$ 200	S.F.	4500	\$ 900,000
00596D	Modular Retaining Walls (Landscape)	\$ 50	S.F.	2200	\$ 110,000
PART 00700, ODOT (WEARING SURFACES)					
00759	6" Sidewalk (4" PCC, 3300 psi)	\$ 9	S.F.	100000	\$ 900,000
00759	PCC Driveway Drops	\$ 3,500	E.A.	60	\$ 210,000
00759	Curb Ramps (per corner)	\$ 7,500	E.A.	55	\$ 412,500
00759	Curb and gutter	\$ 35	L.F.	16700	\$ 584,500
00744	Level 3, 1/2- inch ACP	\$ 110	TON	10000	\$ 1,100,000
PART 00600, ODOT (BASES)					
00620	Cold Plane Pavement Removal	\$ 6	S.Y.	12000	\$ 72,000
00640	Aggregate Base	\$ 35	TON	10500	\$ 367,500
PART 00800, ODOT (PERMANENT TRAFFIC SAFETY & GUIDANCE DEVICES)					
00860-00865	Striping	\$ 160,000	L.S.	1	\$ 160,000
PART 00900, ODOT (PERMANENT TRAFFIC CONTROL & ILLUMINATION DEVICES)					
00900	Rapid Flashing Beacon	\$ 30,000	EA	2	\$ 60,000
00905	Signage	\$ 70,000	L.S.	1	\$ 70,000
00970	Street lighting	\$ 350,000	L.S.	1	\$ 350,000
PART 01000 ODOT (ROW DEVELOPMENT & CONTROL)					
01040	Landscape	\$ 12	S.Y.	26900	\$ 322,800
01040	Planting - Street Trees 2" Caliper	\$ 500	EA.	240	\$ 120,000
01050	Replace private yard items, signs, decorative walls, fences, etc	\$ 200,000	L.S.	1	\$ 200,000
01070	Mailboxes	\$ 20,000	L.S.	1	\$ 20,000
PART 01100 ODOT (WATER SUPPLY SYSTEMS)					
01120	Irrigation Restoration	\$ 40,000	L.S.	1	\$ 40,000
01140	Potable Water Pipe and Fittings - Extend fire hydrant runs and water services (incl. test, flush, chlorination)	\$ 100,000	L.S.	1	\$ 100,000
OTHER					
	Franchise Utilities	\$ 200,000	L.S.	1	\$ 200,000
	Bus Shelter/Benches	\$ 7,500	EA	4	\$ 30,000

CONSTRUCTION SUBTOTAL \$ **10,092,700**

CONTINGENCY (30%) \$ **3,027,810**

ROW Acquisition (80,000 sf) and Construction Easement \$ **1,760,000**

Engineering and Administration (30%) \$ **3,027,810**

ALTERNATIVE 1 PROJECT TOTAL \$ **17,908,320**

CITY OF KEIZER
WHEATLAND ROAD MULTIMODAL CORRIDOR STUDY
ALTERNATIVE 3
 November 12, 2021



PRELIMINARY ENGINEER'S ESTIMATE

ODOT SPEC	DESCRIPTION	UNIT PRICE	UNIT	QTY	AMOUNT
PART 00100, ODOT (GENERAL CONDITIONS) & 00200, ODOT (TEMPORARY FEATURES & APPURTENANCES)					
00210	Mobilization	\$ 500,000	L.S.	1	\$ 500,000
00220-00270	Temporary Traffic Control, Work Access/Containment, Temporary Access and Fencing	\$ 200,000	L.S.	1	\$ 200,000
00280	Erosion and Sediment Control	\$ 50,000	L.S.	1	\$ 50,000
PART 00300, ODOT (ROADWORK)					
00305	Construction Surveying	\$ 50,000	L.S.	1	\$ 50,000
00310	Removal of Structures and Obstructions (incl. sawcut)	\$ 100,000	L.S.	1	\$ 100,000
00320	Clearing and Grubbing	\$ 50,000	L.S.	1	\$ 50,000
00330	General excavation	\$ 20	C.Y.	10000	\$ 200,000
PART 00400, ODOT (DRAINAGE & SEWERS)					
00445	New 12" PVC Storm Pipe, 5-Foot Depth	\$ 92	L.F.	1200	\$ 110,400
00470	Stormwater drainage, quantity, and quality retrofit improvements	\$ 2	S.F.	200000	\$ 400,000
00470	New Catch Basins	\$ 2,700	EA.	30	\$ 81,000
00470	Replace existing Catch Basins, extend lateral and connect to existing storm drain	\$ 3,300	EA.	0	\$ -
00470	New Storm Drain Manholes (Shallow)	\$ 4,500	EA.	7	\$ 31,500
00490	Post pave MH adjustment	\$ 800	Ea.	5	\$ 4,000
PART 00500, ODOT (BRIDGES)					
00510	Structure Excavation (Retaining Walls)	\$ 40	CY	1000	\$ 40,000
00596B	Modular Retaining Walls	\$ 110	S.F.	4500	\$ 495,000
PART 00700, ODOT (WEARING SURFACES)					
00759	6' Sidewalk (4" PCC, 3300 psi)	\$ 9	S.F.	40000	\$ 360,000
00759	10' Multi-use Path (4" PCC, 4000 psi)	\$ 10	S.F.	80000	\$ 800,000
00759	PCC Driveway Drops	\$ 3,500	E.A.	60	\$ 210,000
00759	Curb Ramps (per corner)	\$ 7,500	E.A.	55	\$ 412,500
00759	Curb and gutter	\$ 35	L.F.	9000	\$ 315,000
00744	Level 3, 1/2- inch ACP	\$ 120	TON	2000	\$ 240,000
PART 00600, ODOT (BASES)					
00620	Cold Plane Pavement Removal	\$ 6	S.Y.	2000	\$ 12,000
00640	Aggregate Base	\$ 35	TON	3000	\$ 105,000
PART 00800, ODOT (PERMANENT TRAFFIC SAFETY & GUIDANCE DEVICES)					
00860-00865	Striping	\$ 160,000	L.S.	1	\$ 160,000
PART 00900, ODOT (PERMANENT TRAFFIC CONTROL & ILLUMINATION DEVICES)					
00900	Rapid Flashing Beacon	\$ 30,000	EA	2	\$ 60,000
00940	Signage	\$ 70,000	L.S.	1	\$ 70,000
00970	Street lighting	\$ 350,000	L.S.	1	\$ 350,000
PART 01000 ODOT (ROW DEVELOPMENT & CONTROL)					
01040	Landscape	\$ 12	S.Y.	10000	\$ 120,000
01040	Planting - Street Trees 2" Caliper	\$ 500	EA.	290	\$ 145,000
01050	Replace private yard items, signs, decorative walls, fences, etc	\$ 40,000	L.S.	1	\$ 40,000
01070	Mailboxes	\$ 20,000	L.S.	1	\$ 20,000
PART 01100 ODOT (WATER SUPPLY SYSTEMS)					
01120	Irrigation Restoration	\$ 25,000	L.S.	1	\$ 25,000
01140	Potable Water Pipe and Fittings - Extend fire hydrant runs and water services (incl. test, flush, chlorination)	\$ 30,000	L.S.	1	\$ 30,000
OTHER					
	Franchise Utilities	\$ 100,000	L.S.	1	\$ 100,000
	Bus Shelter/Benches	\$ 7,500	EA	4	\$ 30,000

CONSTRUCTION SUBTOTAL \$ **5,916,400**

CONTINGENCY (30%) \$ **1,774,920**

ROW Acquisition (30,000 sf) and Construction Easement \$ **400,000**

Engineering and Administration (30%) \$ **1,774,920**

ALTERNATIVE 3 PROJECT TOTAL \$ **9,866,240**

APPENDIX G: TIER 1 & TIER 2 SCREENING MATRIX

0 – No Change
 -2 – Significant Impacts
 +2 – Significant Improvements

	Alt 1: TSP		Alt 3: Multi-use Path	
	Score	Comment	Score	Comment
NEIGHBORHOOD LIVABILITY	1.5	Wider pavement width results in higher traffic speeds; Focus on connectivity with improved sidewalks and bike lanes; May not address all roadway users' needs.	2	Maintains the current two-lane cross section; Focus on connectivity with improved sidewalks and bike lanes; Includes buffered bike lanes and a multi-use path for safer and more comfortable biking options.
ENVIRONMENTAL	1	Requires removal of many existing trees and natural resources; More stormwater runoff; No major environmental issues; Can apply practical design approach.	1.5	Preserves existing trees and natural resources; Less stormwater runoff than Alt #1 but slightly more than Alt #2; No major environmental issues, Can apply practical design approach. Smaller pavement cross section. Smaller stormwater footprint.
UTILIZATION OF EXISTING INFRASTRUCTURE	0	Widens curb-to-curb width for entire corridor from 32' - 36' to 48'. No opportunities for saving existing curbs and sidewalks.	1	Maintains most of existing curb-to-curb width.
TRAFFIC OPERATIONS	2	Increases capacity and queue storage at public street intersections and private driveways due to presence of center turn lane.	1.5	Continues to meet City LOS standards, with turn lane at key intersection. Less capacity at most intersections with not continuous left turn lane.
SAFE ROUTES TO SCHOOL	1	Widens crossing distance across Wheatland, but does provide opportunity for median refuge islands. Provides continuous sidewalk along entire corridor. Higher speeds creating conflicts with children crossing for bus stops.	2	Provides continuous sidewalk and multi-use path for all ages and abilities. Buffer between travel lane and bicycle lane increases rider comfort level.
SAFETY	1.5	For vehicles, continuous left turn lane for all public street intersections and private driveways. For vulnerable road users, there are opportunities for RRFBs, median refuge islands, and raised crosswalks. But the wider roadway cross section width is detrimental for vulnerable road users.	2	Buffered bike lanes protect bicycles; Includes ability for non-confident bicyclists to ride on the sidewalk (multi-use path); Opportunities for RRFBs and raised crosswalks; Left turn lane key intersection.
TRANSPORTATION MODE OPTIONS/ MULTIMODAL CONNECTIVITY	1.5	Provides complete street for all modes and continuous facilities along entire corridor. Bike facilities not available for all ages and abilities.	2	Provides service for all modes and continuous facilities along entire corridor, including the ability to bike along the multi-use path instead of the street. Bike facilities provided for all ages and abilities.
EQUITY	2	Improved multimodal options for all users and populations and improves existing connectivity to transit and transit stops.	2	Improved multimodal options for all users and populations and improves existing connectivity to transit and transit stops.
CONVENIENT AND ACCESSIBLE TRANSIT	2	Opportunities for public transit bus stop treatments; adequate lighting; enhanced pedestrian crossings.	2	Opportunities for public transit bus stop treatments; adequate lighting; enhanced pedestrian crossings.
COST EFFECTIVE	1	Highest cost to construct.	1.5	More costly to construct than Alt #2, but less than Alt #1.
TOTAL	1.35		1.75	

Tier 2				
TRAFFIC OPERATIONS	0.5	Continues to meet City LOS standards. Minimally increases capacity and queue storage at public street intersections and private driveways due to presence of center turn lane.	0	Continues to meet City LOS standards; Similar traffic operations to Alt 1 but slightly lower capacity (no continuous left turn lane). Left turn lane provided at key intersection (Russett)
PEDESTRIAN AND BICYCLE QUALITATIVE ASSESSMENT	1.5	Provides regular bike lanes, standard sidewalks, enhanced pedestrian crossings, and fully connected sidewalks. Does not provide bike facilities for all ages and abilities with on-street bike lanes only.	2	Provides buffered bike lanes, a wide multi-use path, enhanced pedestrian crossings, and fully connected sidewalks. Multi-use path provides bike facilities for all ages and abilities.
SAFETY IMPACTS	1	Provides sidewalks with a planter strip, but no buffered bike lanes. Speeds may increase due to TWLTL. TWLTL does provide left turn queuing space and reduces rear-end crashes. Provides medians for enhanced pedestrian crossings.	1.5	Provides larger sidewalks, buffered bike lanes, green bike lane paint at key intersections, and RRFBs. Speeds may drop due to narrower lanes. Best alternative for supporting safe routes to schools.
RIGHT-OF-WAY AND UTILITY IMPACTS	0.5	Widens existing curb-to-curb width and requires ROW acquisition. Additional easements will be required for utilities behind the walk.	1.5	Maintains most of existing curb-to-curb width, still requires some ROW acquisition but less than Alt 1. Existing right-of-way may be available to keep overhead utilities.
PLANNING LEVEL COST ESTIMATES	1	Higher cost to construct.	2	Lower cost to construct, approximately half of Alternative #1
TOTAL	0.90		1.40	

AVERAGE TOTAL	1.13		1.58	
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COUNCIL MEETING: May 16, 2022

TO: MAYOR CLARK AND CITY COUNCIL MEMBERS

**THROUGH: ADAM J. BROWN
CITY MANAGER**

**FROM: TRACY L. DAVIS, MMC
CITY RECORDER/COMMUNITY CENTER MANAGER**

**SUBJECT: INITIATING ORCHARD STREET PARTITION STREET LIGHTING LOCAL
IMPROVEMENT DISTRICT**

ISSUE:

Shall the City Council initiate Orchard Street Partition Street Lighting Local Improvement District?

DISCUSSION:

A petition was filed on April 21, 2022 by the developer of Orchard Street Partition to form a local improvement district for a street light in this area of Keizer. The petition contained the required signatures of the property owner as outlined by City of Keizer Ordinance 94-278.

RECOMMENDATION:

It is recommended that the City Council approve the Resolution Initiating Orchard Street Partition Street Lighting Local Improvement District and direct the City Engineer to prepare a survey of the area.

CITY COUNCIL, CITY OF KEIZER, STATE OF OREGON

Resolution R2022 - _____

DECLARING THE CITY'S INTENT TO INITIATE A STREET LIGHTING LOCAL IMPROVEMENT DISTRICT (ORCHARD STREET PARTITION) AND DIRECTING THE CITY ENGINEER TO MAKE A SURVEY AND FILE A WRITTEN REPORT WITH THE CITY RECORDER

WHEREAS, the City Council of the City of Keizer has received a petition from the developer to initiate a street lighting district in the Orchard Street Partition development in the City of Keizer, Oregon; and

WHEREAS, pursuant to City of Keizer Ordinance 94-278, the necessary signatures of land owner comprising two-thirds of the property to be included within Orchard Street Partition Street Lighting District have requested the formation of the district; NOW,

THEREFORE,

BE IT RESOLVED by the City Council of the City of Keizer that:

1. The City Council declares its intent to initiate Orchard Street Partition Street Lighting Local Improvement District;
2. The map attached hereto, marked Exhibit "A", and by this reference incorporated herein sets forth the proposed boundaries of the district;
3. The City Engineer is hereby directed to make a survey of the District;
4. The City Engineer shall file a written report with the City Recorder on or before June 6, 2022.

BE IT FURTHER RESOLVED that this Resolution shall take effect immediately upon the date of its passage.

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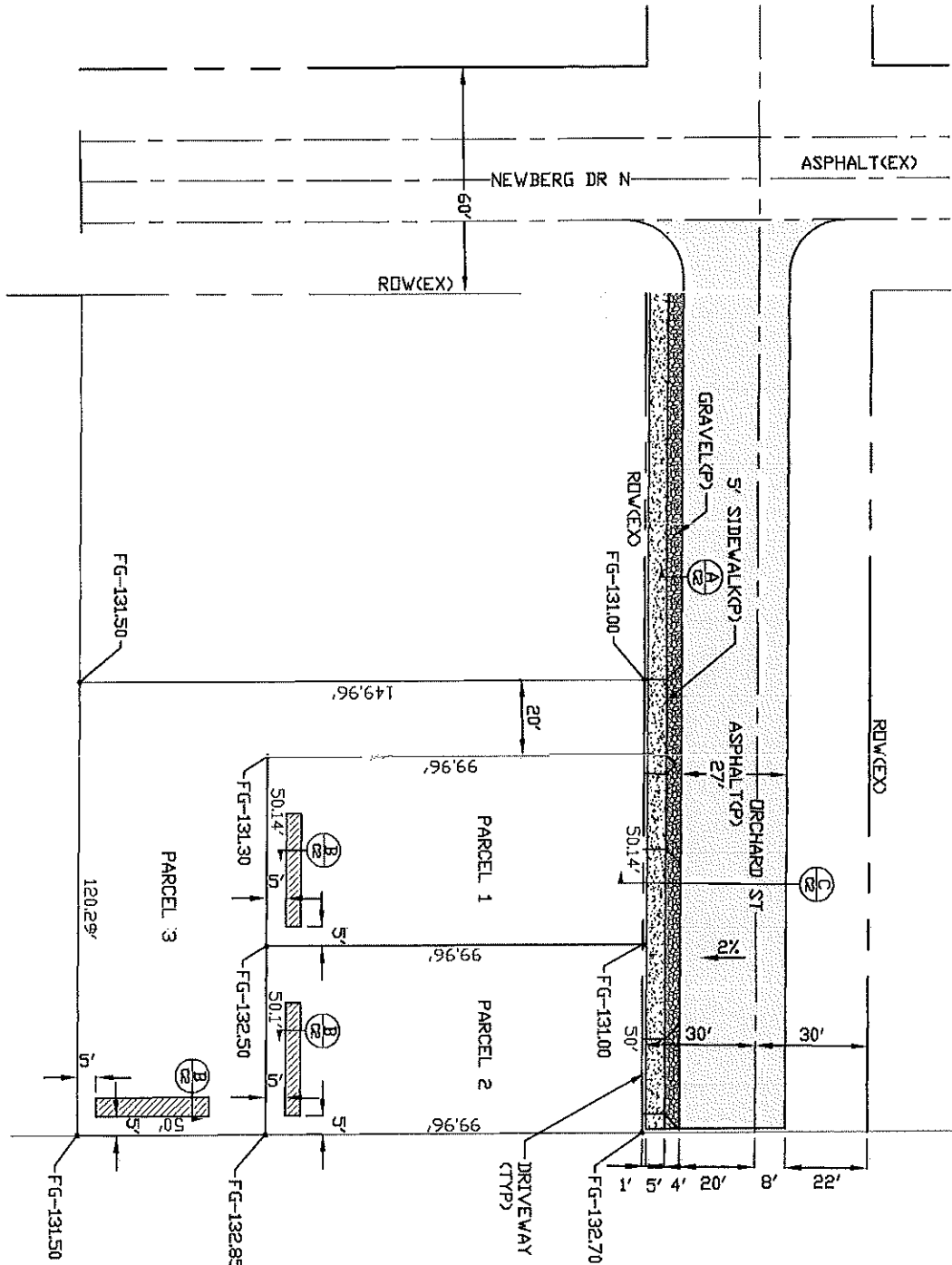
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PASSED this ____ day of _____, 2022.

SIGNED this ____ day of _____, 2022.

Mayor

City Recorder

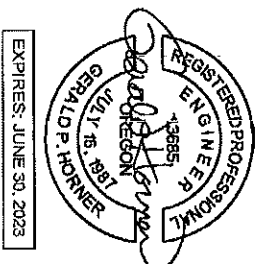


ORCHARD ST PLAN

1/8" = 30'

FOR APPLICATION
NOT FOR REVIEW

VERTICAL ELEVATIONS ESTABLISHED USING MARION COUNTY BENCHMARK 9677 AT THE INTERSECTION OF ELIZABETH AND CHEMAMA RD. BENCHMARK IS A 2" ALUMINUM CAP MARKED MARION COUNTY SURVEYOR 9677 1996' BENCHMARK ELEVATION - 130.97'



<p>ORCHARD ST PARTITION</p> <p>KEIZER, OR 97808</p>	<p>GRADING PLAN</p>	<p>ENGINEER:</p> <p>WILLAMETTE ENGINEERING INC. P.O. BOX 9032 SALEM, OREGON 97305 PH: 503-304-0905 FAX: 503-304-9512</p>
		<p>DATE: 01-14-22</p> <p>BY: RV</p> <p>CLIENT NO: 2022-02</p> <p>PROJECT NO: 2022-02</p> <p>SCALE: 1" = 30'</p>



MINUTES
KEIZER CITY COUNCIL
Monday, May 2, 2022
Keizer Civic Center, Council Chambers
Keizer, Oregon

CALL TO ORDER

Mayor Clark called the meeting to order at 7:00 pm. Roll call was taken as follows:

Present:

Cathy Clark, Mayor
Daniel Kohler, Councilor
Roland Herrera, Councilor
Kyle Juran, Councilor
Shaney Starr, Councilor
Laura Reid, Councilor
Miranda Coleman, Youth Councilor

Staff:

Adam Brown, City Manager
Shannon Johnson, City Attorney
Tim Wood, Finance Director
Shane Witham, Planning Director
Andrew Copeland, Police
Tracy Davis, City Recorder

Absent:

Elizabeth Smith, Councilor

FLAG SALUTE

Mayor Clark led the pledge of allegiance and welcomed new City Manager Adam Brown.

**SPECIAL ORDERS
OF BUSINESS**

Mayor Clark shared information about the Distinguished Young Women scholarship program.

**a. Keizer
Distinguished
Young Women
Recognition**

Fatima Falcon, current Chair of Distinguished Young Women of Keizer introduced herself and welcomed the 2022 and 2023 Distinguished Young Women from Keizer: Ellie Auvinen, Lilly Purkey, Anna Sponable, Kiele Jarnagin, Jetta Mowrey, McKenna Eppley and Amber Haley (arrived later). Ms. Falcon explained that these candidates will participate in the Oregon State competition.

**b. PROCLAMATION
– Asian Pacific
Heritage Month**

Mayor Clark read the proclamation honoring Asian Americans, Native Hawaiians and Pacific Islanders and proclaimed May 2022 as Asian American, Native Hawaiian, and Pacific Islander Heritage Month.

**c. PROCLAMATION
– Jewish
American
Heritage Month**

Mayor Clark read the proclamation honoring Jewish Americans and proclaimed May 2022 as Jewish American Heritage Month.

COMMITTEE REPORTS

a. Formation of Keizer Rapids Park Turf Field Work Group

Mayor Clark read her memo regarding the turf field project ARPA Grant from Marion County. She formed a work group consisting of herself and Councilors Herrera and Juran to do research and make a recommendation to Council. Following the recommendation another work group would be formed to address partnerships, operations and maintenance.

Matt Lawyer, Keizer, shared details about the Claggett Creek Watershed Council Soggy Day at the Park event, thanked volunteers and sponsors, and announced that the Watershed Council no longer has a website but does have a Facebook page.

Hersch Sangster, Keizer, reported on the recent Traffic Safety/Bikeways/ Pedestrian Committee meeting, announced the upcoming Bike Skills Fair and described locations of bike repair stations.

PUBLIC COMMENT

Mayor Clark acknowledged for the record written comments received from Jacque Moir and Kris Adams regarding CCRLS and the Keizer Community Library and allowing voters to decide and Tammy Kunz and James Jones regarding school board issues.

Carolyn Homan, Keizer, representing West Keizer Neighborhood Association, reiterated the association's support for traffic calming measures on area streets, noted that the association will be posting notices on social media asking drivers to drive safely and hopes that the City would do the same. She suggested that the Traffic Management Program be updated and announced a cleanup event planned for Palma Ciega Park. On a personal note, Ms. Holman voiced support for the Keizer Community Library becoming a Public Library.

Ms. Homan then read a letter from Kathy Lincoln supporting changes being made to the Development Code to allow more flexibility in housing options.

Jacqueline Green, Keizer, thanked the Parks Department for the new trees at Claggett Creek Park.

Tammy Kunz, Keizer, asked if transit would be available at reduced fees for the Keizerfest. Ms. Kunz was advised to check with the Transit District.

Corri Falardeau, Keizer Chamber, shared information about the new Keizer Visitors Guide.

Jonathan Thompson, Keizer Chamber, announced that the Chamber had collaborated with other city Chambers and the coalition had received \$3.3 million from the ARPA program to help local small businesses. He shared details regarding the process for applying for the funds and invited businesses to fill out the available survey to begin the process.

Levi Herrera-Lopez, Salem, thanked Council for recognizing Asian Americans, Native Hawaiians, Pacific Islanders and Jewish Americans noting that these actions help people have a sense of belonging. He shared information about insidious language that works against inclusion and equity and noted that denouncing hate speech does not prohibit free speech and protecting free speech does not mean allowing hate speech.

Erious Johnson, Marion County Circuit Court Judge, announced that he was sworn in on February 14 and is visiting area cities to introduce himself.

Richard Walsh, Keizer, urged Council to spend some ARPA funds on completing the pathway paving in Keizer Rapids Park, a library, a recreational center and a pathway through the Claggett Creek greenway.

PUBLIC HEARING

Mayor Clark opened the Public Hearing.

a. Proposed Text Amendments to the Keizer Development Code and Keizer Comprehensive Plan to Implement the Provisions of House Bill 2001 and Senate Bill 458 Pertaining to the Allowance of Middle Housing Types

Planning Director Shane Witham summarized proposed changes and introduced consultants Matt Hastie and Brandon Crawford who shared an explanatory slide presentation.

Discussion followed regarding the availability of affordable housing, permitted use, mixed use zones, and infrastructure improvements. Mayor Clark also noted for the record letters received from 1000 Friends of Oregon and Fair Housing, Kathy Lincoln and Mike DeBlasi.

Tammy Kunz indicated that she had signed the Public Hearing sheet but did not wish to speak.

With no further testimony, Mayor Clark closed the Public Hearing.

Councilor Reid moved that the Keizer City Council direct staff to prepare an ordinance with findings to adopt the proposed revisions. Councilor Kohler seconded. Motion passed as follows:

AYES: Clark, Reid, Herrera, Kohler, Starr and Juran (6)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: Smith (1)

ADMINISTRATIVE ACTION

a. RESOLUTION – Recognition of Northwest Keizer Neighborhood Association

Hersch Sangster, Keizer, shared information about the neighborhood and formation of the association, requested \$500 to get things started and asked that a Councilor be appointed as liaison.

Councilor Reid moved that the Keizer City Council adopt the Resolution Recognition to the Northwest Keizer Neighborhood Association. Councilor Kohler seconded. Motion passed as follows:

AYES: Clark, Reid, Herrera, Kohler, Starr and Juran (6)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: Smith (1)

Finance Director Tim Wood indicated that funds were available to meet the request of the new neighborhood association. Council agreed by consensus to support the appropriation of \$500 for the startup costs of the Northwest Keizer Neighborhood Association.

b. SEKNA Annual Report

Because there was no Southeast Keizer Neighborhood Association representative at the meeting, this was moved to the May 16 Council meeting.

c. Fee Waiver Request for Keizer Rotary Amphitheatre for McNary High School Audio Production & Technology (APT) Stage Show

Tim Wood summarized his staff report and fielded questions regarding security, insurance, toilets and garbage service.

Councilor Reid moved that the Keizer City Council approve the fee waiver for the McNary High School APT Stage Show at the Keizer Rotary Amphitheatre with the stipulations to include insurance requirements and meeting other facility needs such as garbage, toilets and other amenities. Councilor Kohler seconded. Motion passed as follows:

AYES: Clark, Reid, Herrera, Kohler, Starr and Juran (6)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: Smith (1)

d. KeizerFest 2022

City Attorney Shannon Johnson summarized his staff report.

Councilor Reid moved that the Keizer City Council preliminarily approve the location of Keizer Rapids Park as the location for KeizerFest as long as the Keizer Chamber of Commerce meets all the conditions imposed by Council. Councilor Kohler seconded. Motion passed as follows:

AYES: Clark, Reid, Herrera, Kohler, Starr and Juran (6)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: Smith (1)

e. RESOLUTION – Authorizing City Manager to Sign Agreement with CASA of Marion County for American Rescue Plan Act Grant

Councilor Starr recused herself from the discussion and vote due to her position with Marion County CASA.

Mr. Johnson summarized his staff report.

Councilor Reid moved that the Keizer City Council adopt a Resolution Authorizing City Manager to Sign Agreement with CASA of Marion County for American Rescue Plan Act Grant. Councilor Kohler seconded. Motion passed as follows:

AYES: Clark, Reid, Herrera, Kohler and Juran (5)

NAYS: None (0)

ABSTENTIONS: Starr (1)

ABSENT: Smith (1)

**f. RESOLUTION –
Amending the
Keizer
Personnel
Policy Manual
Regarding
Holidays
Observed
(Section 13,
Page 53);
Amending
Resolution
R2010-2040**

Mr. Johnson summarized his staff report.

Councilor Reid moved that the Keizer City Council adopt a Resolution Amending the Keizer Personnel Policy Manual Regarding Holidays Observed (Section 13, Page 53); Amending Resolution R2010-2040. Councilor Kohler seconded.

Councilor Herrera pointed out that this holiday is to commemorate the end of slavery.

Motion passed as follows:

AYES: Clark, Reid, Herrera, Kohler, Starr and Juran (6)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: Smith (1)

**CONSENT
CALENDAR**

- a. RESOLUTION – Approving Report of Consultant Relating to Wheatland Road Corridor Plan
- b. RESOLUTION – Designating Contract Signers for Banking Services and Authorizing City Manager, Finance Director and Mayor to Designate Signers for Other Banking Functions; Repealing Resolution R2021-3162
- c. Report on Disbursement of Petty Cash Funds FY 22
- d. RESOLUTION – Restating the City of Keizer Governmental Money Purchase Plan and Trust Adoption Agreement Under Section 401A of the Internal Revenue Code
- e. Approval of April 11, 2022 Work Session Minutes
- f. Approval of April 18, 2022 Regular Session Minutes

Mayor Clark pulled Item a.

Councilor Reid moved for approval of Items b through f of the Consent Calendar. Councilor Kohler seconded. Motion passed as follows:

AYES: Clark, Reid, Herrera, Kohler, Starr and Juran (6)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: Smith (1)

Mayor Clark verified that Alternative 3 is the modified #3. For clarification Mr. Johnson inserted '*modified alternative 3*' after December 2021 in the Resolution. Councilor Reid moved that the Keizer City Council adopt Resolution Approving Report of Consultant Relating to Wheatland Road Corridor Plan as amended to include 'modified alternative 3' on line 18 after the date. Councilor Kohler seconded. Motion passed as follows:

AYES: Clark, Reid, Herrera, Kohler, Starr and Juran (6)

NAYS: None (0)

ABSTENTIONS: None (0)

ABSENT: Smith (1)

OTHER BUSINESS/ STAFF UPDATES Council Kohler questioned how long the sign code non-compliance initiated during Covid 19 would continue. Mr. Witham responded that clear direction from the City Manager was to refrain from enforcing the rule unless there were specific complaints. Specific concerns should be directed to Code Enforcement so that staff can address them.

City Recorder Tracy Davis announced that recruitment for an Event Center Coordinator is open until May 10.

Andrew Copeland announced that recruitment is open for a Property Evidence Coordinator, Donna Hill retired, Amanda Hague was promoted, a new officer was hired from Alaska, one more is in the background process and two more are graduating the academy soon.

COUNCIL MEMBER REPORTS Councilor Herrera reported on the League of Oregon Cities spring conference, voiced appreciation for Wes Hare, commended the Color Caucus Board, reported on the Kennedy Neighborhood Council and NAACP Freedom Banquet and shared information about the historical significance of Cinco de Mayo.

Councilor Reid reported on the Alabama Learning Lab BBQ, McNary Night for incoming freshmen, the LOC Women Caucus meeting, and announced upcoming events.

Councilor Kohler announced that his son recently graduated from BYU, reported on Keizer Greeters, Keizer Community dinner, and the Marion County Reentry Initiative Breakfast and announced upcoming meetings.

Youth Councilor Coleman reported that she did not attend Soggy Day in the Park because it was on the day of the McNary Prom, and announced the upcoming theater department performance and that she has officially committed to the University of Oregon to study business.

Mayor Clark announced that Shannon Phillip is the new director at the Boys & Girls Club at Kennedy and she continues to work with the Mid-Willamette Valley Council of Governments Legislative Committee to get ready for the upcoming session. She reported on the recent Leadership Salem event, Alabama Learning Lab and Marion County Re-entry Breakfast and announced upcoming meetings and events and that the Keizer Fire Mother's Day pancake breakfast has been cancelled

AGENDA INPUT May 9, 2022, 6:00 p.m. – Keizer Budget Committee Meeting
May 10, 2022, 6:00 p.m. – Keizer Budget Committee Meeting
May 16, 2022, 7:00 p.m. – City Council Regular Session

ADJOURNMENT Mayor Clark adjourned the meeting at 9:37 p.m.

MAYOR:

APPROVED:

Cathy Clark

Debbie Lockhart, Deputy City Recorder

COUNCIL MEMBERS

Councilor #1 – Laura Reid

Councilor #4 – Roland Herrera

Councilor #2 – Shaney Starr

~ Absent ~
Councilor #5 – Elizabeth Smith

Councilor #3 – Kyle Juran

Councilor #6 – Daniel R. Kohler

Minutes approved: _____